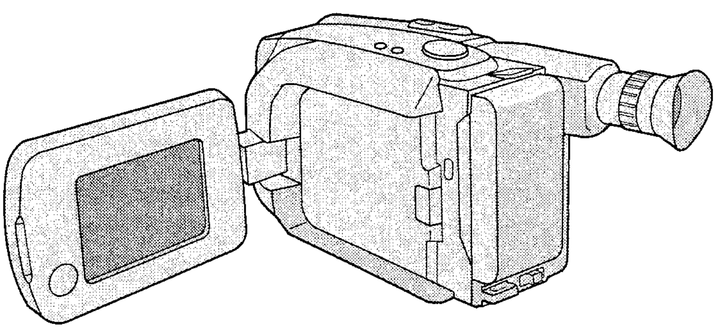
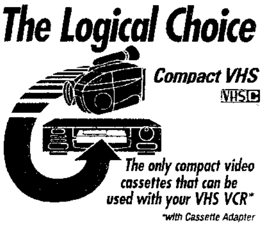
JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-AXM43EG




The Logical Choice
Compact VHS
VHS C
The only compact video cassettes that can be used with your VHS VCR*
*with Cassette Adapter

Compact VHS

VHS C
PAL

SPECIFICATIONS

GENERAL

Format : VHS PAL standard
Power source : DC 6V ⎓
Power consumption
  LCD monitor off, viewfinder on : 6.0 W
  LCD monitor on, viewfinder off : 6.3 W
  LCD monitor on, viewfinder on : 7.0 W
  Signal system : PAL-type
Video recording system
  Luminance : FM recording
  Colour : Converted sub-carrier direct recording Conforms to VHS standard
Cassette : VHS C cassette
Tape speed : 23.39 mm/sec
Recording time (max.) : 60 minutes (with EC-60 cassette)
Operating temperature : 0°C to +40°C
Operating humidity : 35% to 80%
Storage temperature : –20°C to +50°C
Weight : Approx. 980 g
Dimensions (Including viewfinder) : 116 (W) x 117 (H) x 242 (D) mm

CAMERA

Pick up : 1/4" format CCD
Lens : F1.6, f = 3.8 to 83.6 mm, 22:1 power zoom lens with auto iris and macro control, filter diameter 46 mm
Viewfinder : Electronic viewfinder with 0.5" black/white CRT
White balance adjustment : Auto/Manual adjustment

LCD MONITOR

Size : 3" diagonally measured
LCD system : LCD/TFT active matrix system

VIDEO

Output : 1 Vp-p, 75 ohms, unbalanced (via VIDEO OUT connector)

AUDIO

Output : –8 dBs, 1 k-ohm (via AUDIO OUT connector)
Speaker : 20 mm round x 1, monaural
External microphone input : –68 dBs, high impedance unbalanced with ø3.5 mm (MONO)

AC POWER ADAPTER/BATTERY CHARGER (AA-V15EG)

Power requirement : AC 110 V to 240 V∿, 50/60 Hz
Power consumption : 23 W
Output
  Charge : DC 8.5 V ⎓, 1.3 A
  VTR : DC 6.3 V ⎓, 1.8 A
Charging system : Constant current, peak detection, timer controlled
Dimensions : 140 (W) x 42 (H) x 68 (D) mm
Weight : Approx. 300 g

CASSETTE ADAPTER (C-P7U)

Dimensions : 188 (W) x 25 (H) x 104 (D) mm
Weight : Approx. 240 g
Accessory : "R6 (AA)"-size battery x 1

Provided Accessories ....☞ pg. 3

Optional Accessories

- **Battery Packs BN-V12U, BN-V22U, BN-V25U**
- **Car Battery Charger BH-V3E**
- **RF Unit RF-V5E**
- **Compact VHS-C Cassettes EC-60/45/30**
- **Active Carrying Bag CB-V7U**
- **Remote Control Unit RM-V700U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

E. & O. E. Design and specifications subject to change without notice.

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TABLE OF CONTENTS

Section Title Page

Important Safety Precautions

INSTRUCTIONS

1. DISASSEMBLY

1.1 SERVICE CAUTIONS 1-1
  1.1.1 Precautions 1-1
  1.1.2 How to read the disassembly and assembly 1-1
  1.1.3 Connection of the wires 1-1
  1.1.4 Main screws to deal with disassembly/assembly 1-1
1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS 1-2
  1.2.1 Disassembly flow chart 1-2
  1.2.2 Disassembly method 1-2
1.3 DISASSEMBLY/ASSEMBLY OF CAMERA PARTS 1-7
  1.3.1 Disassembly flow chart 1-7
  1.3.2 Disassembly method 1-7
1.4 REPLACEMENT OF CCD IMAGE SENSOR 1-8
  1.4.1 Removal of CCD image sensor 1-8
  1.4.2 Installation of new CCD image sensor 1-8
1.5 DISASSEMBLY/ASSEMBLY OF DECK PARTS 1-9
  1.5.1 Disassembly flow chart 1-9
  1.5.2 Disassembly method 1-9
1.6 HOW TO TAKE OUT CASSETTE TAPE 1-10
1.7 EXTENSION CABLE CONNECTION 1-11

2. MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS 2-1
  2.1.1 Precautions 2-1
  2.1.2 How to read the disassembly and assembly (For Mechanism Parts) 2-1
  2.1.3 Main screws and washers to deal with disassembly/assembly 2-1
2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS 2-2
2.3 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE 2-6
2.4 TAPE TRANSPORT ADJUSTMENT 2-7
  2.4.1 Required adjustment tools 2-7
  2.4.2 Back tension 2-7
  2.4.3 Tape pattern 2-7
  2.4.4 A/CTL head height & azimuth 2-8
  2.4.5 Phase of control head (X value) 2-9
2.5 REMARKS 2-9
  2.5.1 Cleaning 2-9
  2.5.2 Applying oil and grease 2-9
  2.5.3 Checkup 2-9
2.6 PATCH CORD (YTU93082B) CONNECTION 2-10

3. ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJUSTMENT 3-1
  3.1.1 PREPARATION 3-1
3.2 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT <TYPE M> 3-4
  3.2.1 Horizontal sync. 3-4
  3.2.2 PLL adjiustment 3-4
  3.2.3 Centering 3-4
  3.2.4 Focus 3-5
  3.2.5 Brightness 3-5
3.3 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT <TYPE T> 3-5
  3.3.1 Tilt 3-5
  3.3.2 Centering 3-5
  3.3.3 Vertical scanning 3-6
  3.3.4 Brighness 3-6
  3.3.5 Focus 3-6
3.4 MONITOR SECTION ADJUSTMENT 3-6
  3.4.1 HD 3-7
  3.4.2 Bright 3-7
  3.4.3 Contrast 3-7
  3.4.4 Color tint 3-8
  3.4.5 Color level 3-8
  3.4.6 Color phase COMP 3-8
  3.4.7 V. COM 3-8
  3.4.8 White balance 3-8

Section Title Page

4. CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM 4-1
CIRCUIT BOARD NOTES 4-2
4.1 BOARD INTERCONNECTIONS 4-3
4.2 POWER SYSTEM BLOCK DIAGRAM 4-5
4.3 Y/C BLOCK DIAGRAM 4-7
4.4 CAMERA BLOCK DIAGRAM 4-11
4.5 SYSCON/MDA BLOCK DIAGRAM 4-15
4.6 MONITOR BLOCK DIAGRAM 4-17
4.7 SYSCON SCHEMATIC DIAGRAM 4-19
4.8 Y/C SCHEMATIC DIAGRAM 4-21
4.9 DSP SCHEMATIC DIAGRAM 4-23
4.10 AUTO SCHEMATIC DIAGRAM 4-25
4.11 F/Z MDA SCHEMATIC DIAGRAM 4-27
4.12 REGULATOR SCHEMATIC DIAGRAM 4-29
4.13 MAIN1 CIRCUIT BOARD 4-31
4.14 CCD SCHEMATIC DIAGRAM 4-37
4.15 CCD CIRCUIT BOARD 4-39
4.16 MECHA SENSOR AND CTL AMP SCHEMATIC DIAGRAMS 4-41
4.17 MECHA MDA SCHEMATIC DIAGRAM 4-43
4.18 AUDIO SCHEMATIC DIAGRAM 4-45
4.19 PRE/REC SCHEMATIC DIAGRAM 4-47
4.20 SESOR CIRCUIT BOARD 4-49
4.21 SPEAKER SCHEMATIC DIAGRAM 4-51
4.22 MONITOR SCHEMATIC DIAGRAM 4-53
4.23 MONITOR AND SPEAKER CIRCUIT BOARD 4-55
4.24 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM (TYPE T) 4-57
4.25 ELECTRONIC VIEWFINDER CIRCUIT BOARD (TYPE T) 4-59
4.26 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM (TYPE M) 4-61
4.27 ELECTRONIC VIEWFINDER CIRCUIT BOARD (TYPE M) 4-63
4.28 REAR AND OPERATION(CAMERA) SCHEMATIC DIAGRAMS 4-65
4.29 OPERATION(DECK) SCHEMATIC DIAGRAM 4-67
4.30 IR SCHEMATIC DIAGRAM 4-68
4.31 WAVEFORMS 4-69
4.32 VOLTAGE CHARTS 4-70

5. PARTS LIST

5.1 PACKING ASSEMBLY <M1> 5-1
5.2 FINAL ASSEMBLY <M2> 5-3
5.3 MECHANISM ASSEMBLY <M3> 5-6
5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4> <TYPE M> .. 5-8
5.5 ELECTRONIC VIEWFINDER ASSEMBLY <M4> <TYPE T> .. 5-9
5.6 MONITOR ASSEMBLY <M5> 5-10
5.7 ELECTRICAL PARTS LIST 5-11
  MAIN1 BOARD ASSEMBLY <01> 5-11
  CCD BOARD ASSEMBLY <02> 5-16
  SENSOR BOARD ASSEMBLY <03> 5-17
  REAR BOARD ASSEMBLY <05> 5-19
  MONITOR/SPEAKER BOARD ASSEMBLY <07> 5-19
  E. VF BOARD ASSEMBLY (TYPE T) <10> 5-21
  OPERATION (CAMERA) BOARD ASSEMBLY<19> 5-22
  OPERATION (DECK) BOARD ASSEMBLY <20> 5-22
  IR BOARD ASSEMBLY <22> 5-22
  E. VF BOARD ASSEMBLY (TYPE M) <50> 5-22

6. TECHNICAL INFORMATION

6.1 EMERGENCY DISPLAY 6-1
6.2 DEMONSTRATION MODE 6-1

7. AC POWER ADAPTER (AA-V15EG)

7.1 CABINET ASSEMBLY <M2> 7-1
7.2 SCHEMATIC DIAGRAM 7-2
7.3 CIRCUIT BOARD 7-4
7.4 ELECTRICAL PARTS LIST 7-5

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

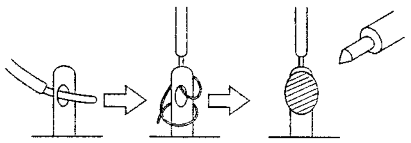


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

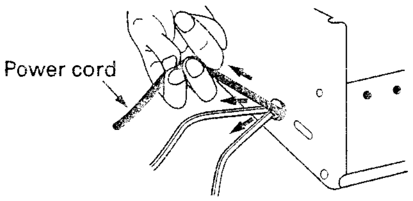


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

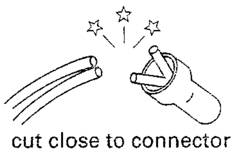


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

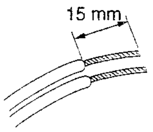


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

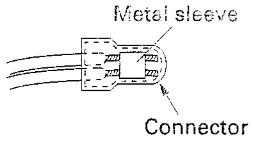


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

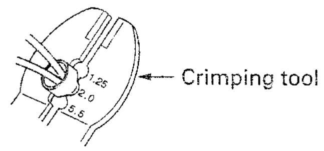


Fig.6

(5) Check the four points noted in Fig.7.

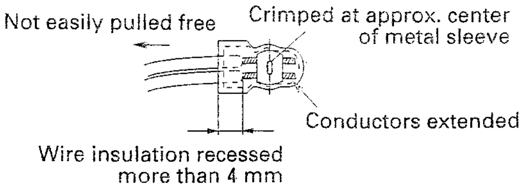

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

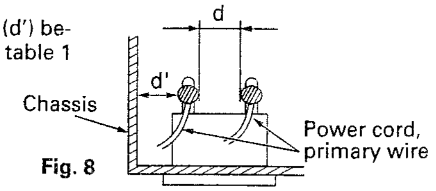


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method : (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

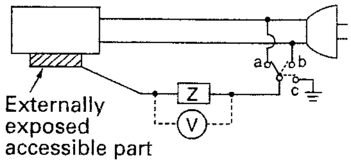


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

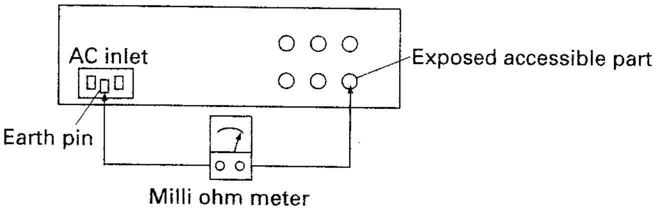


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 µF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

Dear Customer,
Thank you for purchasing the JVC Compact VHS camcorder. Before use, please read the safety information and precautions contained in the following pages to ensure safe use of your new camcorder.

Using This Instruction Manual
- All major sections and subsections are listed in the Table Of Contents (☞ pg. 3).
- Notes appear after most subsections. Be sure to read these as well.
- Basic and advanced features/operation are separated for easier reference.

It is recommended that you . . .

.... refer to the Index (☞ pg. 52 – 54) and familiarize yourself with button locations, etc. before use.

.... read thoroughly the Safety Precautions that follow and cautions (☞ pg. 55, 56). They contain extremely important information regarding the safe use of your new camcorder.

SAFETY PRECAUTIONS

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

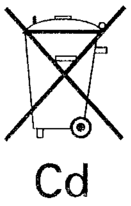
CAUTIONS:
- ■ To prevent shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified personnel.
- ■ When you are not using the AC Power Adapter/Battery charger for a long period of time, it is recommended that you disconnect the power cord from AC outlet.

VHS-C HQ
PAL

- ■ Camcorder is designed exclusively for the VHS-C video cassette. Only cassettes marked VHS-C can be used with this unit.
- ■ HQ VHS is compatible with existing VHS equipment.

Warning on lithium battery
The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C or incinerate.
Replace the battery with Maxell, Panasonic (Matsushita Electric), Sanyo or Sony CR2025; use of another battery may present a risk of fire or explosion.
- ■ Dispose of used battery promptly.
- ■ Keep away from children.
- ■ Do not disassemble and do not dispose of in fire.

Crossed Out Dust Bin Mark



- ■ The Crossed Out Dust Bin Mark on the battery pack indicates that the product complies with Directives 91/157/EEC and 93/86/EEC.
- ■ Nickel-Cadmium (Ni-Cd) battery pack must be recycled or disposed of properly.

This camcorder is designed to be used with PAL-type colour television signals. It cannot be used for playback with a television of a different standard. However, live recording and LCD monitor/viewfinder playback are possible anywhere. Use the BN-V12U/V22U/V25U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

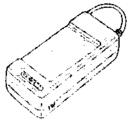
NOTES:
- *The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.*
- *The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.*

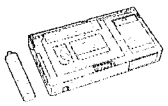
This unit is produced to comply with Standard IEC Publ. 65.

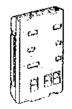
MAJOR FEATURES

- ■ **LCD Colour Monitor** (☞ pg. 14)
- ■ **Program Manager II** (☞ pg. 20 – 35)
- ■ **Programme AE with Special Effects** (☞ pg. 20, 21)
  - •Auto Mode Lock
  - •Auto Mode Release
  - •Electronic Fog Filter •ND Effect
  - •Sepia •Twilight •Sports
  - •Nega/Posi
  - •1/2000 sec. High Speed Shutter
- ■ **Picture Stabiliser** (☞ pg. 18)
- ■ **Digital Hyper Zoom** (☞ pg. 16)

PROVIDED ACCESSORIES


• AC Power Adapter/ Charger AA-V15EG

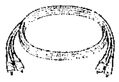

• Cassette Adapter C-P7U

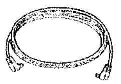

• Battery Pack BN-V12U

• Shoulder Strap

• Lithium Battery CR2025 x 1 (for clock operation)

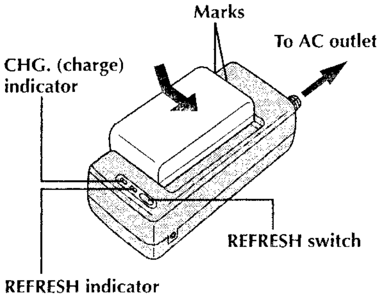
• Cable Adapter


• AUDIO/VIDEO (A/V) cable


• DC cord

CONTENTS

GETTING STARTED 4
Power 4
Clock (Lithium) Battery Insertion/Removal 6
Date/Time Setting 7
Tape Length Setting 8
Loading/Unloading A Cassette 9
Grip Adjustment 10
Viewfinder Adjustment 10
Shoulder Strap Attachment 11
Tripod Mounting 11
RECORDING 12
Basic Recording 12
Basic Features 16
Advanced Features 20
PLAYBACK 36
Basic Playback 36
Features 37
Using The Cassette Adapter 39
Basic Connections 40
TAPE DUBBING 41
USING REMOTE CONTROL UNIT 42
Random Assemble Editing 44
Insert Editing 48
Audio Dubbing 49
TROUBLESHOOTING 50
INDEX 52
Controls 52
Connectors 52
Indicators 52
Other Parts 52
LCD monitor/Viewfinder Indications 54
CAUTIONS 55
SPECIFICATIONS 57

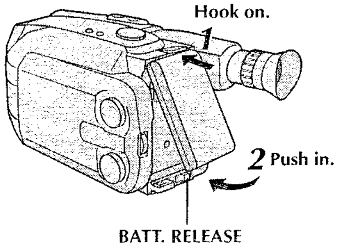


REFRESH

The AC power adapter features a REFRESH function that allows you to fully discharge the battery pack before recharging.
Perform the REFRESH function after no less than 5 chargings.

To discharge the battery . . .

..... attach the battery pack to the adapter as shown in the above illustration. Then push REFRESH. The REFRESH indicator lights when discharging starts, and goes out when discharging is complete.



ATTENTION:

Before detaching the power source, make sure that the camcorder's power is turned off. Failure to do so can result in a camcorder malfunction.

Power

This camcorder's 3-way power supply system lets you choose the most appropriate source of power.

NOTES:

- *No function is available without power supply.*
- *Use only specified power supply.*
- *Do not use provided power supply units with other equipment.*

CHARGING THE BATTERY PACK

1 SUPPLY POWER

Connect the charger's AC power cord to a wall outlet.

2 ATTACH BATTERY PACK

Align the marks and slide the battery pack in the direction of the arrow until it locks in place.

- The CHG. indicator begins blinking to indicate charging has started.

3 DETACH BATTERY PACK

When the CHG. indicator stops blinking but stays lit, charging is finished. Slide the battery pack opposite the direction of the arrow.

BATT. PACK	CHARGE	DISCHARGE
BN-V12U	approx. 1 hr. 10 min.	approx. 3 hrs. 30 min.
BN-V22U	approx. 2 hrs. 10 min.	approx. 7 hrs.
BN-V25U	approx. 2 hrs. 40 min.	approx. 10 hrs.

USING THE BATTERY PACK

1 ATTACH BATTERY PACK

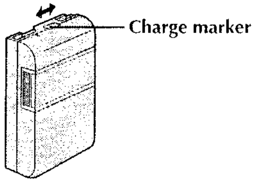
Hook its top end to the camcorder and push the battery pack in until it locks in place.

2 DETACH BATTERY PACK

Slide **BATT. RELEASE** and pull out the battery pack.

Approximate recording time (unit: min.)

BATT. PACK	LCD monitor on/ Viewfinder off	LCD monitor off/ Viewfinder on	LCD monitor on/ Viewfinder on
BN-V12U	55	60	50
BN-V22U	120	130	105
BN-V25U	160	170	140

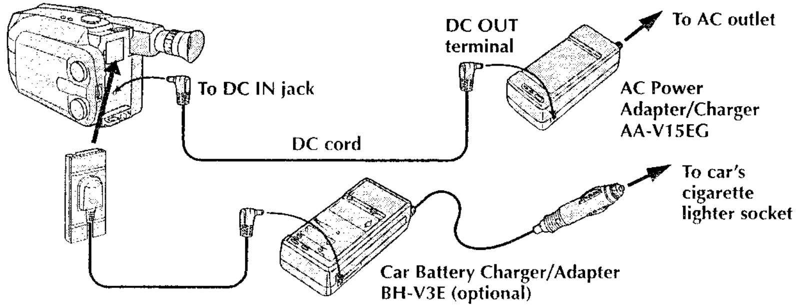


CHARGE MARKER

A charge marker is provided on the battery pack to help you remember whether it has been charged or not. Two colours are provided (red and black)—you choose which one means charged and which means discharged.

NOTES:

- *The recording time per charge is affected by such factors as the time spent in Record-Standby mode and the frequency of zooming. It is safer to have spare battery packs.*
- *Charging times noted on page 4 are for fully discharged battery pack, and discharging times are for fully charged battery pack.*
- *Charging and discharging times vary according to the ambient temperature and the status of the battery pack.*
- *Remember to set the charge marker after charging a battery pack or after detaching a discharged one from your camcorder.*
- *While the AC Power Adapter/Charger's power cord is disconnected from the AC outlet, it is possible to discharge the battery by pressing the REFRESH switch. During that time, the AC Power Adapter/Charger does not charge the battery. When disharging is complete, detach the battery from the AC Power Adapter/Charger to store it.*
- *Perform the REFRESH function after no less than 5 chargings.*
- *High temperatures can damage the battery pack, so use only where good ventilation is available. Don't allow it to discharge in container, such as a bag.*
- *If you stop recharging or discharging part way through, make sure to remove the battery pack before unplugging the adapter's AC cord.*
- *Remove the battery pack from the adapter immediately after discharging.*
- *To avoid interference with reception, do not use the AC Power Adapter/Charger near a radio.*
- *Make sure you unplug the DC cord before charging or discharging the battery pack.*
- *The CHG. indicator may not light properly with a brand new battery pack, or with one that's been stored for an extended period. In this case, remove and reattach the battery pack and recharge it. The CHG. indicator should blink during recharging. If not, contact your nearest JVC dealer.*


DC OUT terminal
To AC outlet
To DC IN jack
AC Power Adapter/Charger AA-V15EG
DC cord
To car's cigarette lighter socket
Car Battery Charger/Adapter BH-V3E (optional)

USING A CAR BATTERY

Use the optional Car Battery Charger/Adapter (connect as shown in the illustration above).

NOTES:

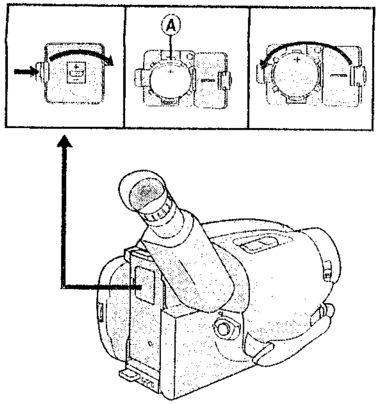
- *When using the car battery, leave the engine idling.*
- *The optional Car Battery Charger (BH-V3E) can also be used to charge the battery pack.*
- *When using the optional Car Battery Charger, refer to the respective instruction booklet.*

USING AC POWER

Use the AC Power Adapter (connect as shown in the illustration above).

NOTE:

The supplied AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.



Clock (Lithium) Battery Insertion/Removal

This battery is necessary for clock operation and to perform date/time settings.

1 SWITCH OFF POWER

Switch off the unit's power and remove the power supply unit.

2 OPEN COVER

Open the clock battery compartment cover while pressing the release tab.

3 REMOVE BATTERY (when replacing)

Insert a pointed, non-metallic object between the battery and the compartment (Ⓐ) and pull the battery out.

4 INSERT BATTERY

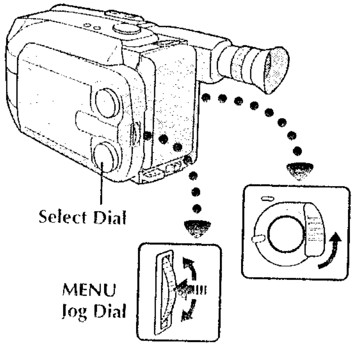
Ensure that the plus (+) side is up and insert a CR2025 lithium battery and push it in.

5 CLOSE COVER

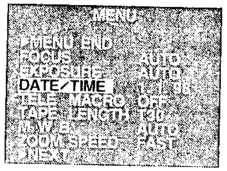
Close the compartment cover until it clicks in place.

NOTE:

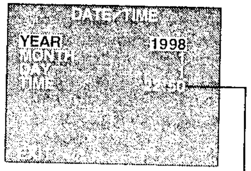
See "SAFETY PRECAUTIONS" (☞ pg. 2) for information on safe handling of lithium batteries.



LCD monitor or viewfinder

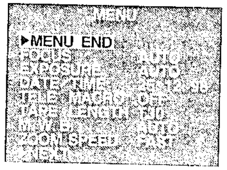

MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 1. 1. 98
TELE MACRO OFF
TAPE LENGTH T30
M.W.B. AUTO
ZOOM SPEED FAST
▶NEXT

Menu Screen


DATE/TIME
YEAR 1998
MONTH 1
DAY 1
TIME [illegible]

DATE/TIME Setting Menu

24-hour indication


MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME [illegible]
TELE MACRO OFF
TAPE LENGTH T30
M.W.B. AUTO
ZOOM SPEED FAST
▶NEXT

Date/Time Setting

1 ACCESS MENU SCREEN

First set the Power Switch to "CAMERA". Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial.

2 SELECT FUNCTION

Rotate the MENU Jog Dial to move the highlight bar to "DATE/TIME", then press it. The DATE/TIME Setting Menu appears.

- If you decide you want to return the date and time to the previous settings, rotate the MENU Jog Dial to move highlight bar to "EXIT" and press it, then go to step **6**.
- If you want to set only the time without changing the date, go to step **4**.

3 SET DATE

Rotate the MENU Jog Dial to move the highlight bar to the item you want to set and then press it. When the setting begins blinking, rotate the MENU Jog Dial until the correct setting appears and then press it. The setting stops blinking.

- Repeat this procedure until you're satisfied with the Date settings ("YEAR", "MONTH" and "DAY").

4 SET TIME

Rotate the MENU Jog Dial to move the highlight bar to "TIME" and then press it. When the hour setting begins blinking, rotate the MENU Jog Dial until the correct setting appears and then press it. When the hour setting stops blinking and the minute setting begins blinking, rotate the MENU Jog Dial until the correct setting appears and then press it. The minute setting stops blinking.

5 START CLOCK OPERATION

When none of these settings (YEAR, MONTH, DAY, TIME) blinks, rotate the MENU Jog Dial to move the highlight bar to "EXIT", and press it. The Menu Screen appears and "MENU END" is highlighted.

6 CLOSE MENU

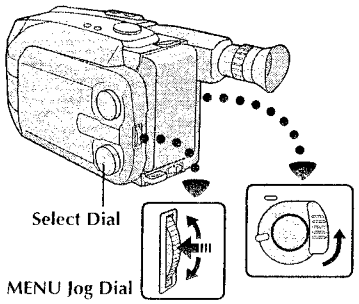
Press the MENU Jog Dial.

NOTE:

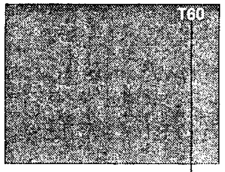
To display the date and time in the LCD monitor or the viewfinder and on a connected TV, see "Date/Time/Character Insert" (☞ pg. 19).

Tape Length Setting

Set the tape length according to the length of the tape used.

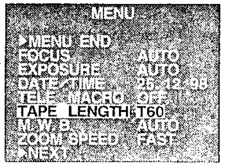


Viewfinder



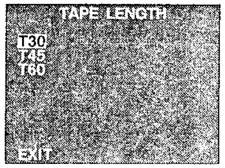
Tape length indicator

LCD monitor or viewfinder



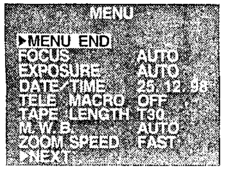
MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25.12.98
TELE MACRO OFF
TAPE LENGTH T60
M.W.B AUTO
ZOOM SPEED FAST
▶NEXT

Menu Screen



TAPE LENGTH
T30
T45
T60
EXIT

TAPE LENGTH Setting Menu



MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25.12.98
TELE MACRO OFF
TAPE LENGTH T30
M.W.B AUTO
ZOOM SPEED FAST
▶NEXT

1 ACCESS MENU SCREEN

First set the Power Switch to "CAMERA". Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial.

2 SELECT FUNCTION

Rotate the MENU Jog Dial to move the highlight bar to "TAPE LENGTH", then press it. The TAPE LENGTH Setting Menu appears.

3 SET TAPE LENGTH

Rotate the MENU Jog Dial to move the highlight bar to the correct setting. T30=30 minutes of recording time, T45=45 minutes, and T60=60 minutes.

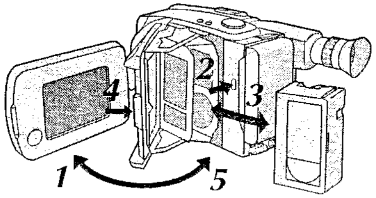
- If you decide you want to return the tape length to the previous setting, rotate the MENU Jog Dial to move the highlight bar to "EXIT".

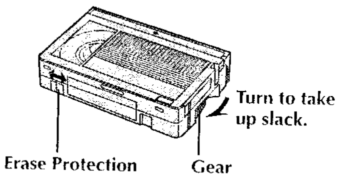
4 CLOSE MENU

Press the MENU Jog Dial. The Menu Screen reappears and the highlight bar is on "MENU END". Then press the MENU Jog Dial again to close the Menu Screen.

NOTES:

- *The tape remaining time (☞ pg. 13) displayed in the viewfinder is correct only if the correct tape length has been selected.*
- *Once you have set the tape length, it remains unchanged even if the Select Dial is returned to AUTO LOCK.*





Loading/Unloading A Cassette

1 OPEN LCD MONITOR

Open the LCD monitor to an angle of over 45 degrees.

2 OPEN CASSETTE HOLDER

Press **EJECT** until the holder opens. Do not use force to open.

3 INSERT/REMOVE CASSETTE

Make sure the label is facing outward.

4 CLOSE CASSETTE HOLDER

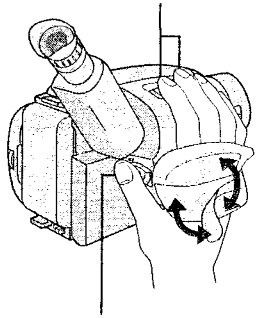
Press **PUSH** and make sure the holder is closed and locked.

5 CLOSE LCD MONITOR

First make sure the holder is closed. Then close the LCD monitor.

NOTES:

- *Closing the LCD monitor while the cassette holder is still open may cause damage to the LCD monitor.*
- *A cassette holder can't be opened unless a power supply is attached.*
- *Make sure that the tape is not slack when loading the cassette. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up the slack.*
- *Make sure the Erase Protection tab is in the position that allows recording. If not, slide the tab. Some cassettes have removable tabs. If the tab has been removed, cover the hole with adhesive tape.*
- *The cassette holder can't be opened while the camcorder is in the record mode.*



Grip Adjustment

1 EXPAND LOOP

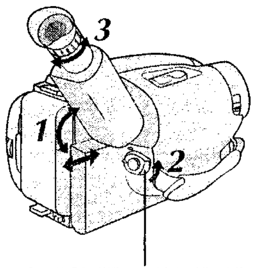
Separate the Velcro strip.

2 INSERT HAND

Pass your right hand through the loop and grasp the grip.

3 ADJUST STRAP LENGTH

Adjust so your thumb and fingers can easily operate the Recording Start/Stop Button and Power Zoom Button. Refasten the Velcro strip.



Viewfinder Adjustment

1 POSITION VIEWFINDER

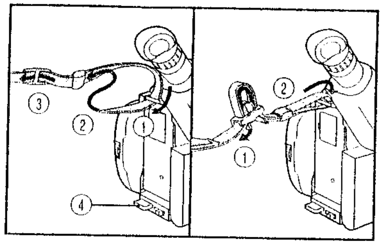
Adjust the viewfinder manually for best viewability (see illustration to the left).

2 SELECT MODE

Set the Power Switch to CAMERA.

3 ADJUST DIOPTRE

Turn the dioptre Adjustment Control until the indications in the viewfinder are clearly focused.



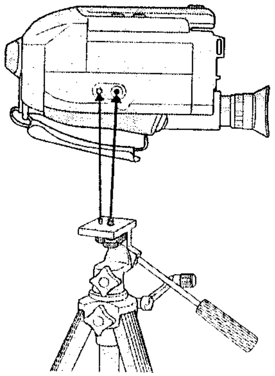
Shoulder Strap Attachment

1 ATTACH STRAP

Following the illustration at left, thread the strap through the top of the eyelet ①, then fold it back and thread it through the keeper ②, and then through the buckle ③. Repeat the procedure to attach the other end of the strap to the other eyelet ④, making sure the strap isn't twisted.

2 ADJUST LENGTH

Adjust as shown in the illustration at left ①, then slide both keepers snug against the eyelets to prevent slipping ②.



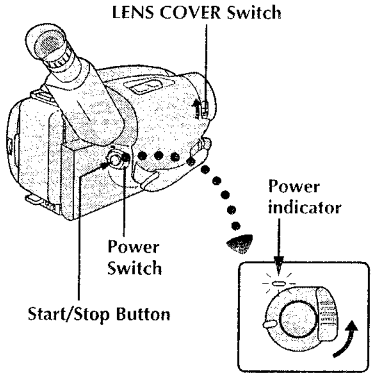
Tripod Mounting

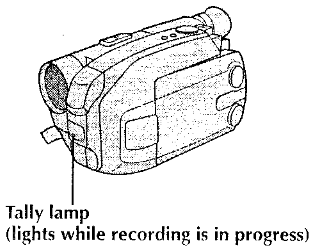
1 ALIGN AND TIGHTEN

Align the screw and camera direction stud on the tripod with the camera's mounting socket and stud hole. Then tighten the screw.

CAUTION:

When using a tripod, be sure to open and extend its legs fully to stabilize the camcorder. To prevent damage to the unit caused by falling over, do not use a small-sized tripod.





NOTE:

You should already have performed the procedures listed below. If not, do so before continuing.

- *Power (☞ pg. 4)*
- *Tape Length Setting (☞ pg. 8)*
- *Grip Adjustment (☞ pg. 10)*

1 LOAD A CASSETTE

First open the LCD monitor to an angle of over 45 degrees.

Press **EJECT** to open the cassette holder, then insert the cassette with the label facing out. Press **PUSH** to ensure the holder is closed and locked.

Shooting while watching the viewfinder

2 ENTER RECORD–STANDBY MODE

Make sure the LCD monitor is closed and locked. Slide the **LENS COVER** Open/Close Switch to open the lens cover, then set the Power Switch to CAMERA.

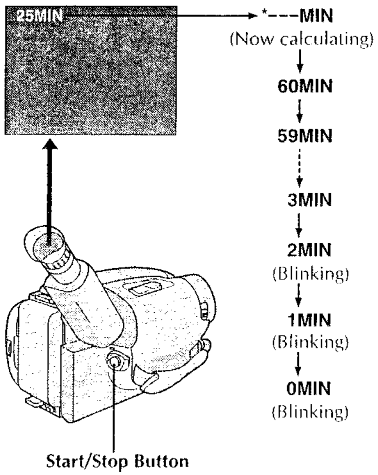
- The power indicator lights and the camcorder enters the Record–Standby mode.
- The scene you're aimed at appears on the viewfinder screen, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Press the Recording Start/Stop Button.

- "REC ▸▸▸" appears in the viewfinder while recording is in progress.

Tape remaining time indicator



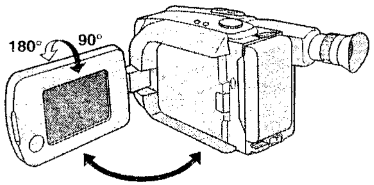
4 STOP RECORDING

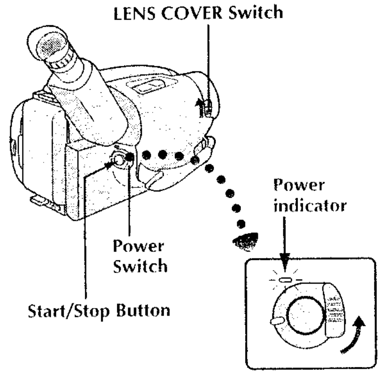
Press the Recording Start/Stop Button again to stop recording.

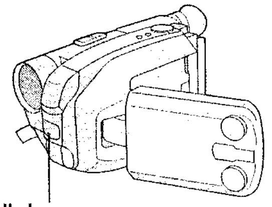
- The camcorder re-enters the Record-Standby mode.

NOTES:

- *When the Power Switch is set to CAMERA and the LCD monitor is opened at an angle of 45 degrees or more, the LCD monitor switches on and the viewfinder switches off automatically to save power.*
- *A cassette holder can't be opened unless a power supply is attached.*
- *There may be a delay after you press EJECT until the holder opens. Do not use force.*
- *The tape remaining time is only displayed in the viewfinder as shown.*
- *The remaining time indicated in the viewfinder is approximate.*
- *The time required to calculate the remaining tape length, and the accuracy of the calculation, may vary according to the type of tape used.*
- *The tape remaining time indicator is correct only if the correct tape length has been selected (☞ pg. 8).*
- *"TAPE END" appears when the tape reaches its end, and the power goes off automatically if left in this condition for 5 minutes. "TAPE END" also appears when a cassette whose tape is already at its end is loaded.*
- *If the Record-Standby mode continues for 5 minutes without performing Zoom or any other operations, the camcorder's power shuts off automatically. Set the Power Switch to "POWER OFF", and then back to "CAMERA" to turn the camcorder on again.*
- *If the Recording Start/Stop Button is pressed after the Record-Standby mode has continued for over 5 minutes, recording may not start immediately.*
- *If you're recording on a cassette from the middle (such as when a tape is removed and re-inserted during recording), use the Retake function (☞ pg. 17) to find the end of the last recording so you don't erase any of it.*
- *The LENS COVER warning blinks for about 5 seconds when the camcorder is turned on when the cover is closed.*
- *While shooting, sound is not heard from the speaker.*







Shooting while watching the LCD monitor

Before the following steps, perform step **1** (☞ pg. 12).

2 ENTER RECORD-STANDBY MODE

Make sure the LCD monitor is fully open. Slide the **LENS COVER** Open/Close Switch to open the lens cover, then set the Power Switch to CAMERA.

- The power indicator lights and the camcorder enters the Record-Standby mode.
- The scene you're aimed at appears in the LCD monitor, with the word "PAUSE" superimposed upon it.

3 START SHOOTING

Tilt the LCD monitor upward/downward for best viewability (☞ pg. 15) and press the Recording Start/Stop button.

- "REC ▶▶▶" appears in the LCD monitor while recording is in progress.

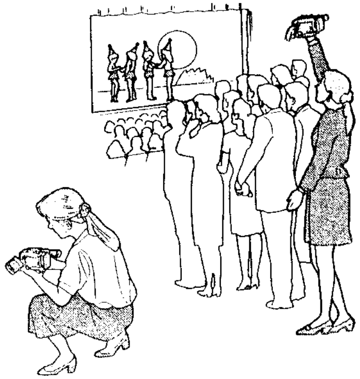
4 STOP RECORDING

Press the Recording Start/Stop Button again to stop recording.

- The camcorder re-enters the Record-Standby mode.

NOTES:

- *When you use the LCD monitor outdoors in direct sunlight, the LCD monitor may be difficult to see. If this happens, we recommend that you use the viewfinder (☞ pg. 12).*
- *The tape remaining time is not displayed on the LCD monitor. However, when the tape is about to reach its end, the following indicators appear:* **"2MIN" → "1MIN" → "0MIN"**.
- *For other notes, refer to pg. 13.*



Journalistic shooting

In some situations different angles of shooting may be required for more dramatic results.

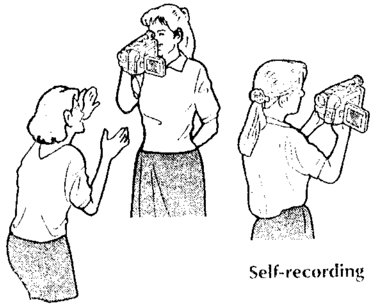
1 OPEN LCD MONITOR

Make sure the LCD monitor is fully open.

2 TILT LCD MONITOR

Tilt the LCD monitor in the most convenient direction.

- The LCD monitor can rotate almost full circle (270°: 90° downward, 180° upward).



Interface shooting

A person you shoot can view himself/herself in the LCD monitor, and you can even shoot yourself while viewing your own image in the LCD monitor.

1 TILT LCD MONITOR UPWARD

Open the LCD monitor and tilt it upward to 180 degrees so that it faces forward.

- When the LCD monitor is tilted upward to an angle of over approx. 105 degrees, the monitor image is inverted vertically, and the viewfinder also switches on.

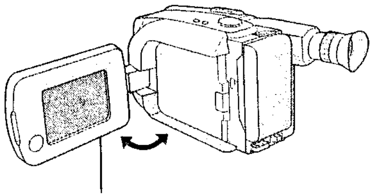
2 START RECORDING

Point the lens toward the subject (yourself when self-recording) and start recording.

- During Interface Shooting, the monitor image and indications do not appear inverted as they would when viewing a mirror.

NOTE:

During Interface Shooting, indications other than the Date/Time display and Title display do not appear in the viewfinder.



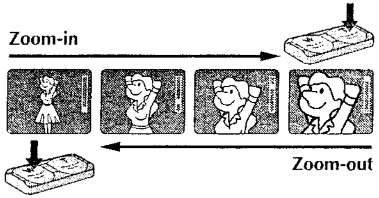
Brightness control

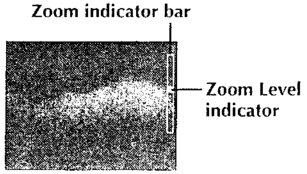
You can adjust the brightness of the LCD monitor by turning the **BRIGHT** Dial.

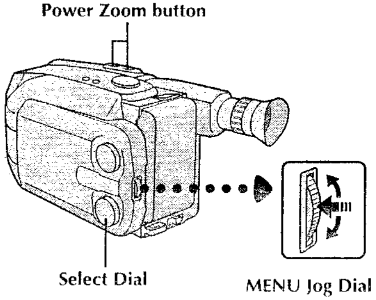
1 ADJUST BRIGHTNESS

If you want to brighten the image . . .
Turn the Dial towards "+".

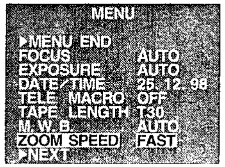
If you want to darken the image . . .
Turn the Dial towards "–".







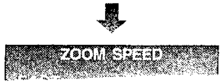
LCD monitor or viewfinder



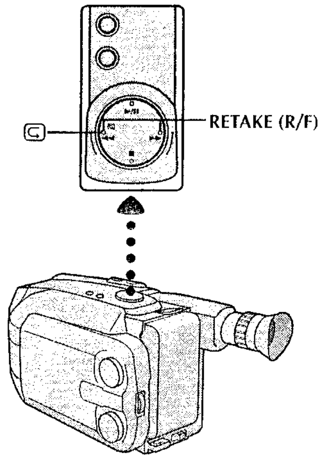
MENU

▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25. 12. 98
TELE MACRO OFF
TAPE LENGTH T30
M. W. B. AUTO
ZOOM SPEED FAST
▶NEXT

Menu Screen

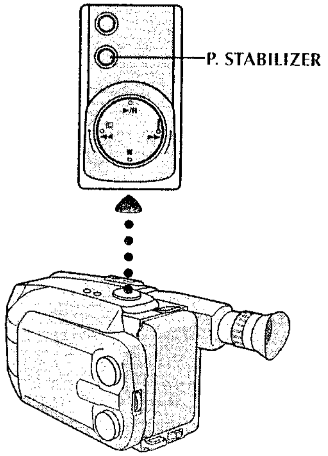


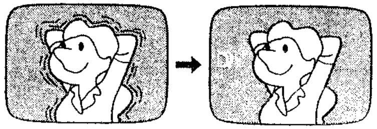
FEATURE:	**Zooming**
PURPOSE:	To produce the zoom in/out effect, or an instantaneous change in image magnification. Digital circuitly doubles the maximum 22x magnification offered by optical zoom. This system is called Digital Zoom.
OPERATION:	***Zoom In*** Press the "T" of the Power Zoom Button. ***Zoom Out*** Press "W" of the Power Zoom Button. ■ Zooming speed is available. A total of 4 zoom speeds are available. 2 speeds can be selected depending on how hard the Power Zoom Button is pressed (press the button fully for regular-speed, press it lightly for slow-speed), while 2 speed levels (FAST/SLOW) can be selected in the ZOOM SPEED Menu depending on the overall speed you prefer. The combinations of zoom speeds are shown in the chart below. ***Changing the ZOOM SPEED in the Menu*** **1)** Set the Select Dial to any position except AUTO LOCK and press the MENU Jog Dial. The Menu Screen appears. **2)** Rotate the MENU Jog Dial to move the highlight bar to "ZOOM SPEED", then press it. The ZOOM SPEED Setting Menu appears. **3)** Rotate the MENU Jog Dial to move the highlight bar to the desired speed and press it twice. The Menu Screen disappears and setting is completed.
NOTES:	• *Focusing may become unstable during Zooming. In this case, set the zoom while in Record-Standby, lock the focus by using the manual focus (☞ pg. 31), then zoom in or out in Record mode.* • *The zoom level indicator (■) moves during zoom. Once the zoom level indicator reaches the top of the zoom indicator bar, all magnification from that point is through digital processing.* • *During Digital Zoom, the quality of image may suffer. To deactivate Digital Zoom, set "D.ZOOM" to "OFF" in the Menu Screen (☞ pg. 28).*



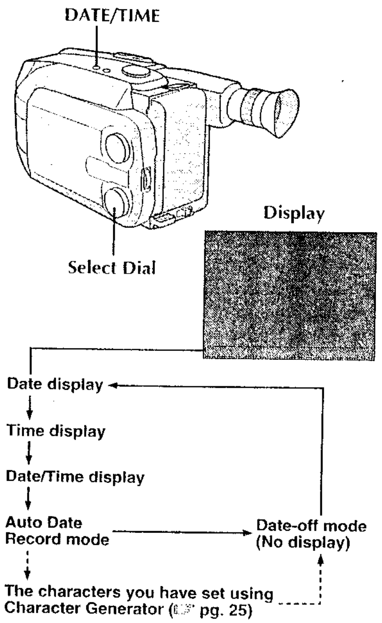
FEATURE:	**Quick Review**
PURPOSE:	To check the end of the last recording.
OPERATION:	**1)** Press "⊂" and release quickly during the Record–Standby mode. ■ Tape is rewound for about 2 seconds and played back automatically, then pauses in Record–Standby mode for the next shot.
NOTE:	*Distortion may occur at start of playback. This is normal.*

FEATURE:	**Retake**
PURPOSE:	To re-record certain segments.
OPERATION:	**1)** Make sure the camcorder is in the Record–Standby mode. **2)** Press either **RETAKE** button to reach the start point for new recording. Pressing "F" forwards the tape and pressing "R" reverses it. **3)** Press Recording Start/Stop Button to start recording.
NOTE:	*Noise may appear during Retake. This is normal.*

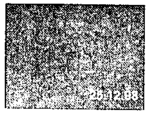




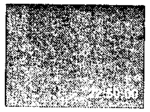
FEATURE:	**Picture Stabiliser**
PURPOSE:	To compensate for unstable images caused by camera-shake, particularly at high magnification.
OPERATION:	1) Press **P. STABILIZER**. "(✋)" appears. ■ To switch off the Picture Stabiliser, press **P. STABILIZER**. The indicator disappears.
NOTES:	● *Accurate stabilisation may not be possible if hand shake is excessive, or under the following conditions:* • *When shooting subjects with vertical or horizontal stripes.* • *When shooting dark or dim subjects.* • *When shooting subjects with excessive backlighting.* • *When shooting scenes with movement in various directions.* • *When shooting scenes with low-contrast backgrounds.* ● *Switch off the Picture Stabiliser when recording with the camcorder on a tripod.*


DATE/TIME
Select Dial
Display
Date display
Time display
Date/Time display
Auto Date Record mode
Date-off mode (No display)
The characters you have set using Character Generator (☞ pg. 25)

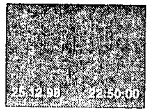
Date display



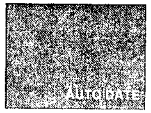
Time display



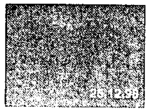
Date/Time display



Auto Date Record mode



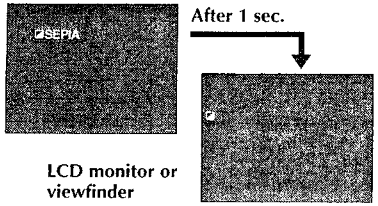
Auto date record mode



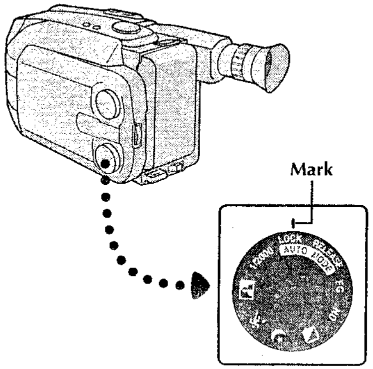
Auto date record executed

FEATURE:	**Date/Time/Character Insert**
PURPOSE:	To display the date and time on the LCD monitor, in the viewfinder, or on a connected colour monitor, as well as to record them manually or automatically.
OPERATION:	1) Turn the Select Dial to any position except AUTO LOCK. 2) Choose a display mode by pressing **DATE/TIME** repeatedly while in Record-Standby to cycle through the modes as shown in the illustration to the left. ■ You should have already performed the Date/Time Setting procedure (☞ pg. 7). If you haven't, do so first.
NOTES:	***DISPLAY*** ● *The selected display can be recorded.* ● *If you don't want to record the display, select the Date-off mode before shooting.* ● *If you want to delete the display during shooting, press **DATE/TIME**.* ● *To recall the display, engage the Record-Standby mode and press **DATE/TIME** repeatedly until the desired display appears.* ***AUTO DATE RECORD*** ● *Your camcorder automatically records the date for about 5 seconds after recording is initiated in the following situations:* • *After changing the date.* • *After loading a cassette.* • *After Auto Date Record mode is selected by pressing **DATE/TIME*** *In this mode, the date is replaced after 5 seconds with "AUTO DATE" but this is not recorded.* ● *Setting the Select Dial to AUTO LOCK always engages the Auto Date Record mode, and disable all other modes.*

1 second later, the mode is activated.



LCD monitor or viewfinder



Select Dial

Programme AE With Special Effects

All you have to do to access any of the variety of shooting effects is to turn the Select Dial.

1 SELECT MODE

Turn the Select Dial until the symbol of the function you want is aligned with the mark.

- The selected mode's name and its indication are displayed for approx. 1 second. Then the name disappears, and only the indication remains. The mode is activated.
- When Auto Mode Lock or Auto Mode Release mode is selected, only the mode's name is displayed. Then the name disappears and the mode is activated.

NOTES:

- *Only one effect can be engaged at a time.*
- *The screen becomes slightly reddish when the Fade/Wipe (☞ pg. 22) is used in the Sepia mode.*
- *The screen becomes slightly dark in the High Speed Shutter mode. Use in well-lit situations.*
- *In the High Speed Shutter or Sports modes, picture colour may be adversely affected if subject is lit by alternating discharge-type light sources such as flourescent or mercury-vapour lights.*

Dial symbol	LCD monitor/ Viewfinder indication	Mode
LOCK	AUTO LOCK	Auto Mode Lock

Auto Mode Lock

Locks the camcorder in Full Auto mode, preventing incorrect operation due to accidental button pressing during shooting.

- In this mode the following controls are disabled; DATE/TIME display select, and the Menu Jog Dial.

RELEASE	AUTO RELEASE	Auto Mode Release

Auto Mode Release

Re-enables the controls that were disabled by Auto Mode Lock.

FG	FG : FOG	Electronic Fog Filter

Electronic Fog Filter

Makes the picture look misty white, as when an external fog filter is attached to the lens. Softens the image and gives it a "fantasy" look.

ND	ND : ND EFFECT	ND Effect

ND Effect

A black mist darkens the picture, as when an ND filter is used. Helps to counter the effects of glare on the subject.

◩	◩ SEPIA	Sepia

Sepia

The scene being shot is recorded in sepia-tinted (reddish-brown) monochrome, giving the effect of an older movie. Use together with Wide (☞ pg. 23) for the authentic look of a classic Hollywood movie.

Dial symbol	LCD monitor/ Viewfinder indication	Mode
☾	☾ TWILIGHT	Twilight

Twilight

Dusk, twilight scenery, fireworks, etc., look more natural and dramatic. The following happens when Twilight mode is selected:

- Auto gain control is turned off.
- White Balance is set to "☀" (FINE day mode), but can also be manually changed to another mode (☞ pg. 33).
- Auto Focus becomes available only in the range of 10 m to infinity. To focus when the subject-to-camera distance is less than 10 m, use manual focusing (☞ pg. 31).

🏃	🏃 SPORTS	Sports

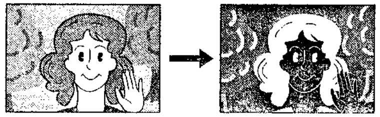
Sports

High shutter speed clearly captures fast-moving action.

▣	▣ NEGA POSI	Nega/Posi

Nega/Posi (Negative/Positive)

The colours of a picture are reversed.



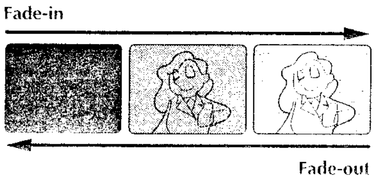
NEGA POSI mode

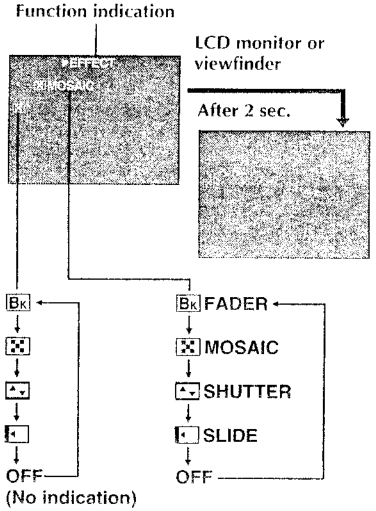
1/2000	2 S 1/2000	1/2000 sec. High Speed Shutter

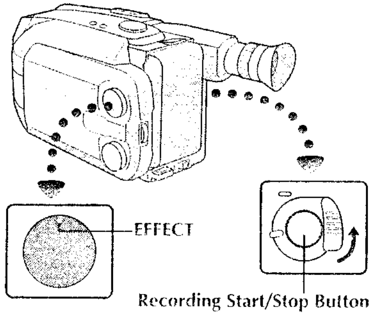
High-Speed Shutter (1/2000s.)

Captures faster action than Sports mode.

[Ex. : Fader]







Fade/Wipe

These effects let you make pro-style scene transitions. Fade- or wipe-in works at recording start, and fade- or wipe-out works at recording end or when you enter Record-Standby mode.

1 ENGAGE FADE- OR WIPE-STANDBY MODE

Press **EFFECT** to cycle through the modes as shown to the left. Once the desired mode appears, it is selected and reserved.

- The selected mode's name and its indication are displayed for approx. 2 seconds. Then the name disappears, and only the indication remains.

2 START OR END RECORDING

Press Recording Start/Stop Button to activate fade-in/out or wipe-in/out.

3 TO CANCEL FADE- OR WIPE-STANDBY MODE

Press **EFFECT** repeatedly until "OFF" appears.

- "OFF" is displayed for approx. 2 seconds and the fade/wipe-standby mode is cancelled.

Bk FADER

Fades in/out to a black screen.

MOSAIC (Fader)

Gradually turns/returns the picture into/from a mosaic pattern.

SHUTTER (Wipe)

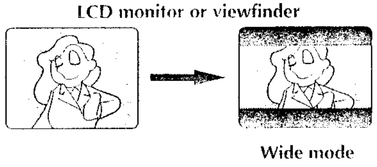
A black screen moves in from the top and bottom, closing over the image like a shutter, or a new image pushes open the black screen vertically from the centre.

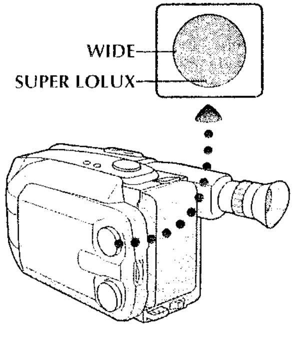
SLIDE (Wipe)

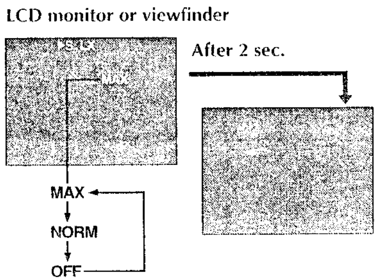
A black screen moves in from the left to gradually cover the image, or a new image moves in from right to left.

NOTES:

- *Pressing and holding the Recording Start/Stop Button allows you to record a black blank screen or a mosaic pattern if Mosaic Fader is selected.*
- *The screen becomes slightly reddish when the Fade/Wipe is used with Sepia (☞ pg. 21).*
- *With the Electronic fog filter mode (☞ pg. 21) engaged, when Fader (not Mosaic) is used, the image fades in/out to a white screen.*







Wide

This feature allows you to record black bars at the top and bottom of the screen to produce a cinema-like "wide-screen" effect.

1 ENGAGE WIDE MODE

Press **WIDE**.

- To restore normal screen, press **WIDE** again.

Super LoLux(Gain Up)

Bright, natural recordings can be taken even in areas with low or poor lighting.

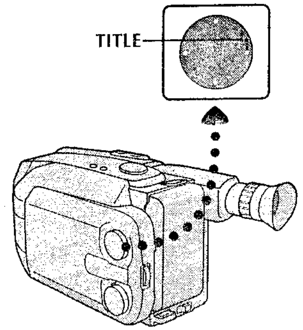
1 SELECT SUPER LOLUX MODE

Press **SUPER LOLUX** repeatedly to cycle through the modes as shown to the left. Once the desired mode appears, it is engaged.

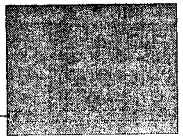
- The mode's name is displayed for approx. 2 seconds, then disappears.

MAX	: To record a subject in a dark lit environment. When it is more convenient to shoot the subject with a brighter image even if the picture becomes slightly coarse.
NORM	: To record a subject in a dimly lit environment. When it is more convenient to shoot with a less coarse picture although the subject becomes slightly dark.
OFF	: Allows you to shoot dark scenes with no picture brightness adjustment.

NOTE (for Fade/Wipe, Wide, Super LoLux, Instant Titles and Picture Stabiliser) :
When the Select Dial is turned to AUTO LOCK, the above functions will be set to the Factory settings (Fade/Wipe-standby : "OFF", Wide mode : off, Super LoLux : "MAX", Instant Title : off, Picture Stabiliser: off). Then when the Select Dial is returned to any position except AUTO LOCK, the above functions return to the settings you selected before turning it to AUTO LOCK. However, if the function is switched during AUTO LOCK, the selected mode will be set and will remain unchanged even when the Select Dial is turned to any position except AUTO LOCK.



LCD monitor or viewfinder



Title display

HAPPY BIRTHDAY ← No display

HAPPY HOLIDAYS

OUR FAMILY

MOVIE STAR

PARTY TIME

MERRY CHRISTMAS

WEDDING DAY

CONGRATULATIONS

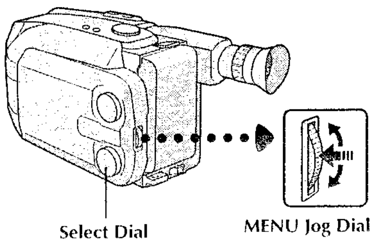
The characters you have set using Character Generator (☞ pg. 25)

Instant Titles

The camcorder has eight preset titles in memory. You can superimpose one of them above a previously stored title as shown in the illustration to the left.

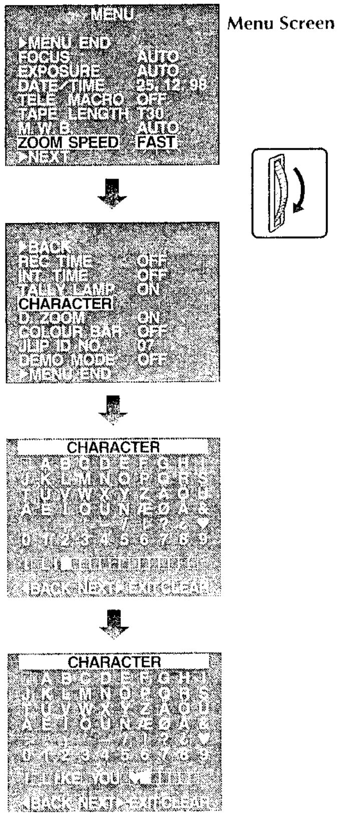
1 SELECT PRESET TITLE

Press **TITLE** repeatedly to cycle through the preset titles until the desired title is displayed.


Select Dial
MENU Jog Dial

LCD monitor or viewfinder

Menu Screen


MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25.12.98
TELE MACRO OFF
TAPE LENGTH T30
M.W.B. AUTO
ZOOM SPEED FAST
▶NEXT
▶BACK
REC TIME OFF
INT. TIME OFF
TALLY LAMP ON
CHARACTER
D. ZOOM ON
COLOUR BAR OFF
JLIP ID NO. 07
DEMO MODE OFF
▶MENU END
CHARACTER
◀BACK NEXT▶ EXIT CLEAR
CHARACTER
I LIKE YOU ♥
◀BACK NEXT▶ EXIT CLEAR

Character Generator

You can enter an original title of up to 18 characters.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial. The Menu Screen appears.

2 ACCESS CHARACTER MENU

Rotate the MENU Jog Dial to move the highlight bar to "CHARACTER", then press it.

3 INPUT CHARACTERS

Rotate the MENU Jog Dial to make the desired character blink, then press it. The selected character appears at the bottom of the screen. Repeat for additional characters (max. 18).

- To select the location of the next character, rotate the MENU Jog Dial to make "**◀BACK**" or "**NEXT▶**" at the bottom of the screen blink, then press it repeatedly to move the blinking cursor underneath the desired location. Rotate the MENU Jog Dial when you are done, and the blinking cursor returns to the character grid.

4 END CHARACTER SETTING

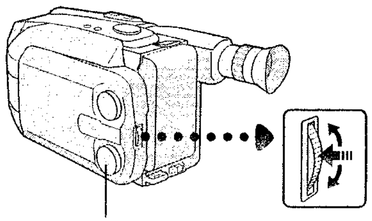
Rotate the MENU jog dial to make "EXIT" blink, then press it. The Menu Screen reappears and the highlight bar is placed on "MENU END".

5 CLOSE MENU

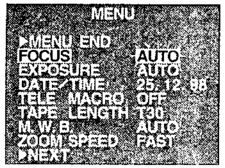
Press the MENU Jog Dial.

NOTES:

- *To erase a character you entered mistakenly, make "CLEAR" blink by rotating the MENU Jog Dial, then press it. All characters are deleted at once. Or, to erase selected characters only, first move the blinking cursor to the characters at the bottom row which you want to replace, then rotate the MENU Jog Dial to highlight "□" in the top left corner, and then press it.*
- *To display the characters you have set — "Date/Time/Character Insert" (☞ pg. 19) or "Instant Titles" (☞ pg. 24).*
- *Characters may be set only in the Record-Standby mode.*

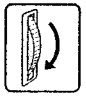


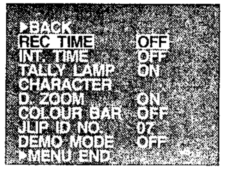
LCD monitor or viewfinder



```
MENU
▶MENU END
FOCUS           AUTO
EXPOSURE        AUTO
DATE/TIME       25.12.98
TELE MACRO      OFF
TAPE LENGTH     T30
M.W.B.          AUTO
ZOOM SPEED      FAST
▶NEXT
```

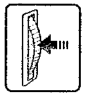
Menu Screen 1

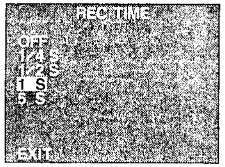




```
▶BACK
REC TIME        OFF
INT. TIME       OFF
TALLY LAMP      ON
CHARACTER
D. ZOOM         ON
COLOUR BAR      OFF
JLIP ID NO.     07
DEMO MODE       OFF
▶MENU END
```

Menu Screen 2

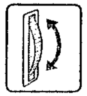


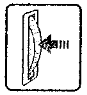


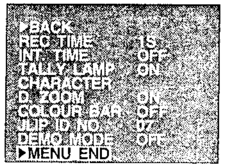
```
REC TIME
OFF
1/4 S
1/2 S
1 S
5 S

EXIT
```

Setting Menu
(ex. REC TIME)

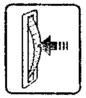






```
▶BACK
REC TIME        1S
INT. TIME       OFF
TALLY LAMP      ON
CHARACTER
D. ZOOM         ON
COLOUR BAR      OFF
JLIP ID NO.     07
DEMO MODE       OFF
▶MENU END
```

Normal Screen



Using Menu For Detailed Adjustment

This camcorder is equipped with an easy-to-use, on-screen menu system that simplifies many of the more detailed camcorder settings.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial. The Menu Screen appears.

2 SELECT FUNCTION

Rotate the MENU Jog Dial to place the highlight bar on the desired function.

- When the highlight bar reaches the bottom of Menu Screen 1, Menu Screen 2 is automatically displayed. When the highlight bar reaches the top of Menu Screen 2, Menu Screen 1 is automatically displayed.
- If the setting you want can't be found in the Menu Screen, place the highlight bar on "MENU END", then go to step 5.

3 MAKE SETTING

Press the MENU Jog Dial. The setting menu of the selected function appears. The setting procedure depends on the function you select.

If you select "FOCUS", "EXPOSURE", "DATE/ TIME", or "CHARACTER" . . .

.... see respective pages (FOCUS: ☞ pg. 30, 31, EXPOSURE: ☞ pg. 29, DATE/TIME: ☞ pg. 7, CHARACTER: ☞ pg. 25).

If you select "JLIP ID NO." . . .

.... press the MENU Jog Dial so that the number blinks, then rotate it until the desired number appears, and press it. Then rotate the MENU Jog Dial to move the highlight bar to "EXIT".

If you select any other functions . . .

.... rotate the MENU Jog Dial to move the highlight bar to the desired setting.

- If you decide you want to return to the previous setting, rotate the MENU Jog Dial to move the highlight bar to "EXIT".

4 END SETTING

Press the MENU Jog Dial. The Menu Screen reappears and the highlight bar is on "MENU END".

5 CLOSE MENU

Press the MENU Jog Dial. The normal screen reappears.

NOTE:

The menu function except "FOCUS" and "EXPOSURE" are not available while in the Record mode.

Menu Screen Explanations

FOCUS	**AUTO**	Adjusts focus automatically.
	MANU	Allows you to adjust focus manually (☞ pg. 30, 31).
EXPOSURE	**AUTO**	Adjusts exposure automatically.
	MANU	Allows you to adjust exposure manually (☞ pg. 29).
DATE/TIME	Allows you to set the current date and time (☞ pg. 7).	
TELE MACRO	**OFF** **ON**	Usually the distance to a subject where the lens is in focus depends on the zoom magnification. Unless there is a distance more than 1m to the subject, the lens is out of focus at the maximum telephoto setting. When set to "ON", you can shoot a subject as large as possible at a distance of approx. 60 cm. • Depending on the zoom position, the lens may go out of focus.
TAPE LENGTH	Allows you to set the tape length depending on the tape used (☞ pg. 8).	
M.W.B.	**AUTO** **☀ : FINE** **☁ : CLOUD** **✳ : HALOGEN** **MWB**	This camcorder's Automatic Colour Temperature system senses the colour temperature of the ambient lighting for automatic white balance adjustment. However, precise colour adjustment is not possible under the following conditions: • When an object is in various shades of the same colour. • When a predominantly red or brown object is being shot outdoors. In these cases, use the camcorder's built-in preset filters for white balance adjustment (☞ pg. 32).
ZOOM SPEED	**FAST** **SLOW**	Allows you to set the zooming speed (☞ pg. 16).

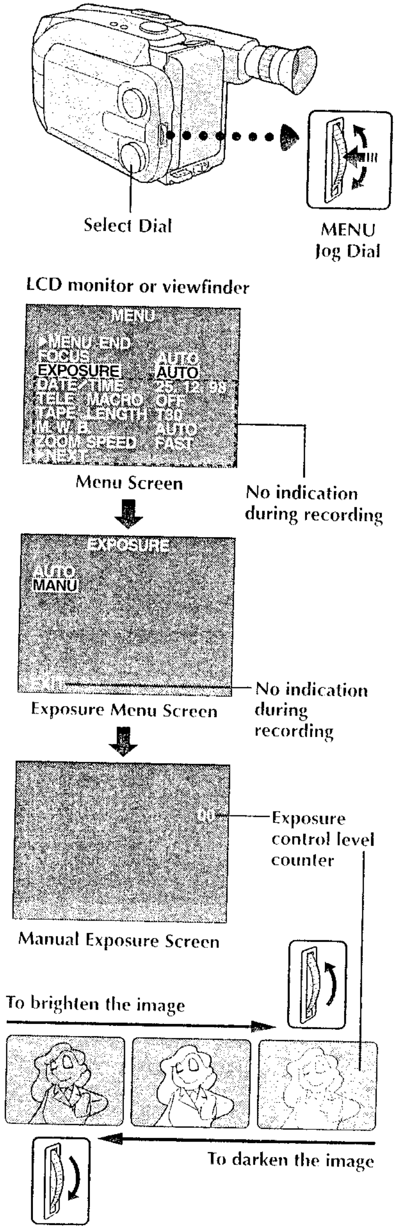
☐ = Factory setting and when the Select Dial is set to AUTO LOCK

CONTINUED ON NEXT PAGE

Menu Screen Explanations (cont.)

REC TIME	This feature allows you to set the parameters for Animation and Time-Lapse recording (☞ pg. 35).	
INT. TIME	This feature allows you to set the parameters for Self-Timer (☞ pg. 34) and Time-Lapse recording (☞ pg. 35).	
TALLY LAMP	▨ ON	The tally lamp comes on to signal the start of recording.
	OFF	The tally lamp remains off at all times.
CHARACTER	Allows you to enter an original title of up to 18 characters (☞ pg. 25).	
D. ZOOM	▨ ON	Allows you to use the Digital Zoom. By digitally processing and magnifying images, zooming is possible from 22 times (the optical zoom limit), to a maximum of 44 times digital magnification.
	OFF	Digital Zoom is not available. Only optical zoom (maximum 22x magnification) can function. When set to "OFF" during Digital Zoom, zoom magnification changes to 22x.
COLOUR BAR	▨ OFF	Does not display colour bars. Normal screen is recorded.
	ON	Makes the normal screen disappear, then displays colour bars. By recording colour bars at the beginning or end of a tape, an effect similar to professional productions can be given to your tape. **NOTE:** While the colour bars are displayed, the camcorder's other functions are disabled.
JLIP ID NO.	This number is necessary when connecting the camcorder to a device such as a computer using the J terminal (JLIP). The numbers range from 01 to 99. Factory setting is 07.	
DEMO MODE	▨ OFF	Automatic demonstration will not take place.
	ON	Demonstrates certain functions such as Fade/Wipe, Instant Titles etc. When "DEMO MODE" is set to "ON" and the Menu Screen is closed, demonstration starts. **NOTES:** ● When a tape whose Erase Protection tab is in the position that allows recording is loaded in the camcorder, demonstration is not available. ● By turning off the camcorder or inserting a tape whose Erase Protection tab is in the position that allows recording into it, "DEMO MODE" is set to "OFF" automatically. ● During demonstration, all functions except zoom are disabled.

▨ = Factory setting and when the Select Dial is set to AUTO LOCK


Select Dial
MENU Jog Dial
LCD monitor or viewfinder
MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25.12.98
TELE MACRO OFF
TAPE LENGTH T30
M.W.B. AUTO
ZOOM SPEED FAST
▶NEXT
Menu Screen
No indication during recording
EXPOSURE
AUTO
MANU
EXIT
Exposure Menu Screen
No indication during recording
00
Exposure control level counter
Manual Exposure Screen
To brighten the image
To darken the image

Exposure Control

This feature automatically adjusts the iris for the best available picture quality, but you can override and make the adjustment manually.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial. The Menu Screen appears.

2 ACCESS EXPOSURE MENU SCREEN

Rotate the MENU Jog Dial to move the highlight bar to "EXPOSURE" and press it.

3 ACCESS MANUAL EXPOSURE

Rotate the MENU Jog Dial to move the highlight bar to "MANU", then press it. "00" (exposure control level counter) appears.

4 ADJUST EXPOSURE

To brighten the image . . .
Rotate the MENU Jog Dial upward. The exposure control level counter increases (maximum +06). Go to step 5.

To darken the image . . .
Rotate the MENU Jog Dial downward. The exposure control level counter decreases (maximum –06). Go to step 5.

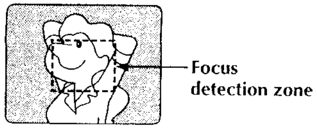
5 END ADJUSTMENT OF EXPOSURE

Press the MENU Jog Dial. The Menu Screen reappears and the highlight bar is placed on "MENU END".

6 CLOSE MENU

Press the MENU Jog Dial. The Menu Screen disappears and the exposure control level counter reappers to indicate the exposure is adjusted.

NOTES:
- *To return to the factory setting, select "AUTO" in step 3.*
- *To re-adjust exposure, repeat the procedure from step 1.*



Focusing

Auto Focus

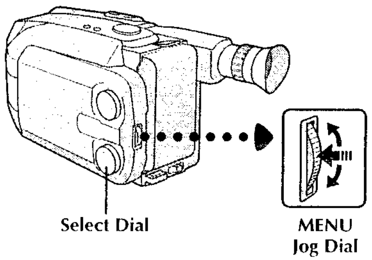
The camcorder's Full Range AF system offers continuous shooting ability from close-up to infinity. However, correct focus may not be obtainable in the situations listed below (in these cases use manual focusing):

- When two subjects overlap in the same scene.
- When illumination is low.*
- When the subject has no contrast (difference in brightness and darkness), such as a flat, one-colour wall, or a clear, blue sky.*
- When a dark object is barely visible in the viewfinder.*
- When the scene contains minute patterns or identical patterns that are regularly repeated.
- When the scene is affected by sunbeams or light reflecting off the surface of a body of water.
- When shooting a scene with a high-contrast background.

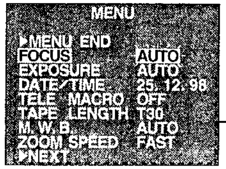
* The low-contrast warning "▲👤" appears.

NOTES:

- *If the lens is smeared or blurred, accurate focusing is not possible. Keep the lens clean, wiping with a piece of soft cloth if it gets dirty. When condensation occurs, wipe with a soft cloth or wait for it to dry naturally.*
- *When shooting a subject close to the lens, zoom-out first (☞ pg. 16). If zoomed-in in the auto focus mode, the camcorder could automatically zoom out depending on the distance between the camcorder and the subject. When Tele Macro (☞ pg. 27) is activated, the camcorder will not zoom out automatically.*



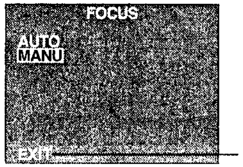
LCD monitor or viewfinder



MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25. 12. 98
TELE MACRO OFF
TAPE LENGTH T30
M. W. B. AUTO
ZOOM SPEED FAST
▶NEXT

Menu Screen

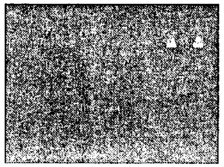
No indication during recording



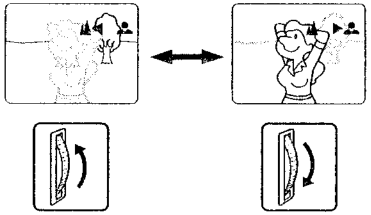
FOCUS
AUTO
MANU
EXIT

Focus Menu Screen

No indication during recording



Manual Focus Screen



Manual Focus

NOTE:

You should already have made the necessary viewfinder adjustments (☞ pg. 10). If you haven't, do so before continuing.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial. The Menu Screen appears, and the highlight bar is placed on "FOCUS".

2 ACCESS FOCUS MENU SCREEN

Press the MENU Jog Dial.

3 ACCESS MANUAL FOCUS

Rotate the MENU Jog Dial to move the highlight bar to "MANU", then press it. "▲" and "👤" appear. The focus is locked at this point.

4 ADJUST FOCUS

To farther subject . . .

Rotate the MENU Jog Dial upward. "◀" appears and blinks.

Go to step **5**.

To nearer subject . . .

Rotate the MENU Jog Dial downward. "▶" appears and blinks.

Go to step **5**.

5 END ADJUSTMENT OF FOCUS

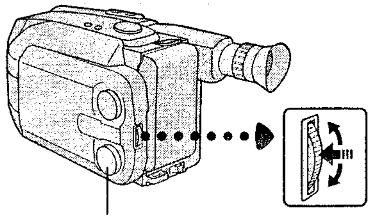
Press the MENU Jog Dial. The Menu Screen reappears and the highlight bar is placed on "MENU END".

6 CLOSE MENU

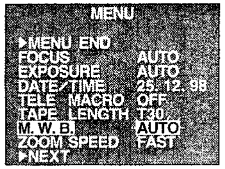
Press the MENU Jog Dial. The Menu Screen disppears and "▲👤" reappears to indicate the focus is locked.

NOTES:

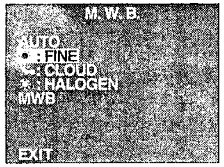
- *To return to Auto Focus, select "AUTO" in step **3**.*
- *To re-adjust Manual Focus, repeat the procedure from step **1**.*
- *Be sure to focus the lens in the maximum telephoto position when you use the Manual Focus mode. If you focus in on a certain subject in the wide-angle position, sharply focused images cannot be obtained when zoomed up because the depth-of-field is reduced at longer focal lengths.*
- *When the focus level cannot be adjusted any farther or closer, "▲" or "👤" will blink.*



LCD monitor or viewfinder



Menu Screen



M.W.B. Menu Screen

Manual White Balance Adjustment (M.W.B.)

The white balance is usually adjusted automatically. However, the more advanced camcorder operator would prefer to control this function manually and achieve a more professional colour/tint reproduction.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial. The Menu Screen appears.

2 ACCESS WHITE BALANCE MENU SCREEN

Rotate the MENU Jog Dial to move the highlight bar to "M.W.B.", then press it.

3 SELECT WHITE BALANCE

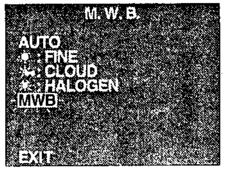
Rotate the MENU Jog Dial to move the highlight bar to the required white balance.

"**AUTO**"	Automatic adjustment
"☀ : **FINE**"	Outdoors on sunny day
"⛅ : **CLOUD**"	Outdoors on cloudy day
"✱ : **HALOGEN**" ...	Light source is halogen or tungsten lamp
"**MWB**"	When using a personal White Balance Setting stored in memory (☞ pg. 33)

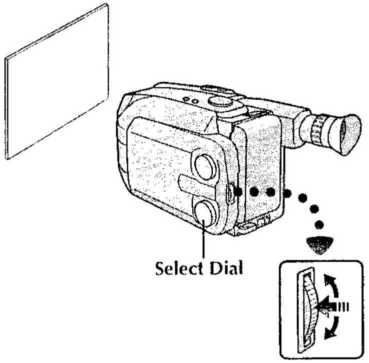
4 CLOSE MENU

Press the MENU Jog Dial. The Menu Screen reappears. Then press the MENU Jog Dial again to exit the Menu Screen.

LCD monitor or viewfinder



M.W.B. Menu Screen



MWB

MWB sets the colour temperature for the subject's light source so you can shoot with natural colours that are unaffected by surroundings, even when there are multiple subjects with different colour temperatures.

1 PREPARE WHITE OBJECT

Point the camcorder at a white, flat object such as a sheet of white paper.

2 SELECT MWB

Follow step **1** through **3** on page 32 ("Manual White Balance Adjustment"), select "MWB".

3 MEMORIZE WHITE BALANCE

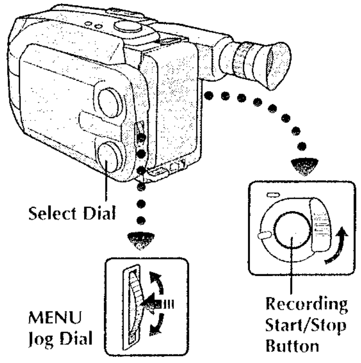
Press the MENU Jog Dial until "MWB" begins blinking. "MWB" blinks while the white balance is being stored in memory, then the Menu Screen reappears when memorization is complete.

4 CLOSE MENU

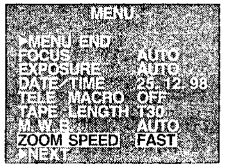
Press the MENU Jog Dial.

NOTES:

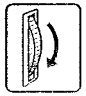
- *To switch to automatic white balance adjustment, set the M.W.B. in the Menu Screen to "AUTO", or turn the Select Dial to "AUTO LOCK".*
- *Re-adjust the White Balance when the lighting has changed, when the camcorder has been turned off and on again, or when the Select Dial's position has been changed.*
- *When adjusted by putting coloured paper in front of the subject in step **1** of "MWB", this unit makes its colour temperature standard for automatic white balance. So you can enjoy shooting with different colours. For example, when adjusting with red, blue or yellow colours, the image becomes the colour which approximates to green, orange or purple respectively.*

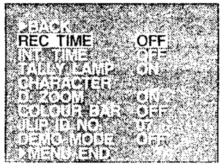


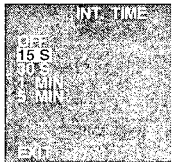
LCD monitor or viewfinder


MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 25.12.98
TELE MACRO OFF
TAPE LENGTH T30
M.W.B. AUTO
ZOOM SPEED FAST
▶NEXT

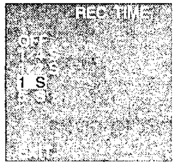
Menu Screen



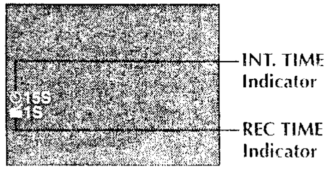

▶BACK
REC TIME OFF
INT. TIME OFF
TALLY LAMP ON
CHARACTER
D. ZOOM ON
COLOUR BAR OFF
JLIP ID NO. 07
DEMO MODE OFF
▶MENU END


INT. TIME
OFF
15 S
30 S
1 MIN
5 MIN
EXIT

INT. TIME Menu


REC TIME
OFF
1 S
EXIT

REC TIME Menu



INT. TIME and REC TIME indications on the normal screen

Self-Timer

You can set the delay between pressing the Recording Start/Stop Button and the actual start of recording. If you secure the camcorder, you (or whomever is operating the camcorder) can enter the scene before recording starts.

NOTE:

Make sure the camcorder is in the Record-Standby mode before performing the following steps.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press the MENU Jog Dial.

2 ACCESS INT. TIME MENU SCREEN

Rotate the MENU Jog Dial to move the highlight bar to "INT. TIME", then press the MENU Jog Dial.

3 SET INTERVAL TIME

Rotate the MENU Jog Dial to move the highlight bar to the desired time, then press the MENU Jog Dial. The Menu Screen reappears and the highlight bar is placed on "MENU END".

4 CLOSE MENU

Press the MENU Jog Dial.

5 START DELAYED RECORDING

Press the Recording Start/Stop Button. When the selected time has elapsed, recording begins automatically.

To Cancel Self-Timer . . .

... Before the recording begins, press the Recording Start/Stop Button to display "**PAUSE**", then set "INT. TIME" in the Menu Screen to "OFF".

Animation

Give stationary scenes or objects an illusion of movement. This function allows you to shoot a series of pictures, each slightly different, of the same object for a brief period of time.

NOTE:

Make sure the camcorder is in the Record-Standby mode before performing the following steps.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press MENU Jog Dial.

2 SET RECORDING TIME

Rotate the MENU Jog Dial to move the highlight bar to "REC TIME", then press the MENU Jog Dial. The REC TIME Menu appears. Rotate the MENU Jog Dial to move the highlight bar to the desired time, then press the MENU Jog Dial. The Menu Screen reappears. Press the MENU Jog Dial again to exit the Menu Screen.

3 START RECORDING

Press the Recording Start/Stop Button after focusing on the subject. The recording stops automatically after the selected period of time.

4 ASSEMBLE SERIES OF PICTURES

Repeat step 3 for the desired number of pictures.

5 RELEASE ANIMATION MODE

Set "REC TIME" in the Menu screen to "OFF".

NOTES:

- *For best results, make sure the camcorder is secured when shooting in Animation or Time-Lapse mode.*
- *Fade- or Wipe-in/out cannot be performed during Animation or Time-Lapse shooting.*
- *Before performing other operations following Animation or Time-Lapse recording, make sure the Animation or Time-Lapse mode is deactivated.*
- *Self-Timer, Animation and Time-Lapse are cancelled when the power is shut off or when the cassette is ejected.*

Time-Lapse

You can record sequentially at preset time spans. Leaving the camcorder aimed at a specific subject, you can record subtle changes over an extended period of time.

NOTE:

Make sure the camcorder is in the Record-Standby mode before performing the following steps.

1 ACCESS MENU SCREEN

Turn the Select Dial to any position except AUTO LOCK, then press MENU Jog Dial.

2 SET INTERVAL BETWEEN RECORDINGS

Rotate the MENU Jog Dial to move the highlight bar to "INT. TIME", then press the MENU Jog Dial. The INT. TIME Menu appears. Rotate the MENU Jog Dial to move the highlight bar to the desired time, then press the MENU Jog Dial. The Menu Screen reappears.

3 SET RECORDING TIME

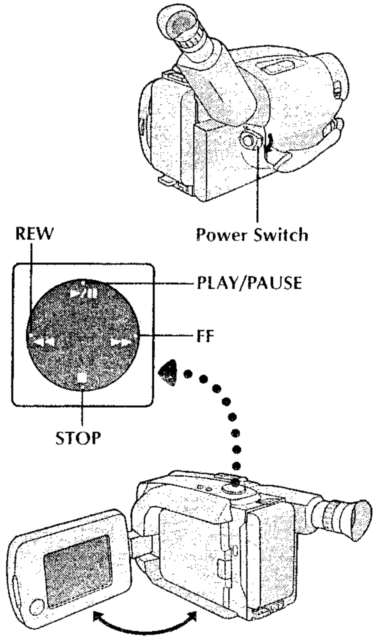
Rotate the MENU Jog Dial to move the highlight bar to "REC TIME", then press the MENU Jog Dial. The REC TIME Menu appears. Rotate the MENU Jog Dial to move the highlight bar to the desired time, then press the MENU Jog Dial. The Menu Screen reappears. Press the MENU Jog Dial again to exit the Menu Screen.

4 START TIME-LAPSE RECORDING

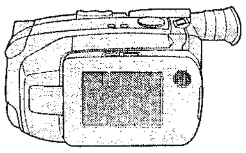
Press the Recording Start/Stop Button. Recording and intervals alternate automatically.

5 RELEASE TIME-LAPSE MODE

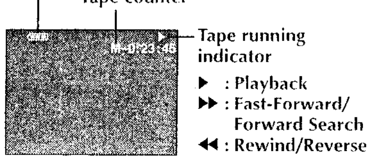
To release when "**PAUSE**" is displayed, set "REC TIME" and "INT. TIME" in the Menu Screen to "OFF". To release when "**PAUSE**" and "REC ▶▶▶" are not displayed, press the Recording Start/Stop Button to display "**PAUSE**", then set "REC TIME" and "INT. TIME" in the Menu Screen to "OFF".



LCD Monitor in Retracted Position



Battery pack remaining power indicator*



LCD monitor/ viewfinder indications

1 LOAD A CASSETTE

First open the LCD monitor to an angle of over 45 degrees. Press **EJECT** to open the cassette holder, then insert the cassette with the label facing out. Press **PUSH** to ensure the holder is closed and locked.

2 SELECT MODE

Make sure the LCD monitor is fully open. Then set the Power Switch to "PLAY". The power indicator lights.

3 PLAY BACK

Press **PLAY/PAUSE**. The playback picture appears.

4 STOP PLAYBACK

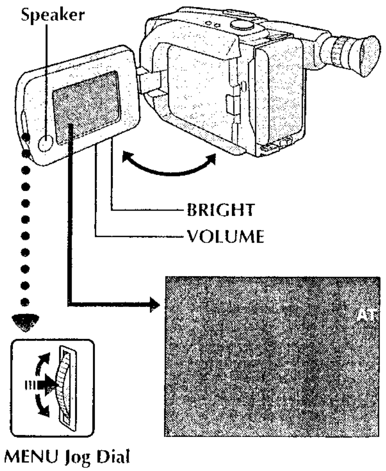
Press **STOP**.

Rewind or Fast-forward the tape

Press **REW** to rewind, or **FF** to fast-forward the tape during Stop mode.

NOTES:

- *The camcorder shuts off automatically after about 5 minutes in Stop mode. To turn on again, set the Power Switch to "POWER OFF", then to "PLAY".*
- *When the Power Switch is set to "PLAY" and the LCD monitor is opened at an angle of 45 degrees or more, the LCD monitor switches on and the viewfinder switches off automatically to save power.*
- *The playback picture can also be viewed in the viewfinder (with the LCD monitor shut) or on a connected TV (☞ pg. 40). Camcorder operation is the same as described in this section.*
- *You can also view the playback picture on the LCD monitor with it flipped over and retracted.*
- *LCD monitor/viewfinder indications:*
  - *The indication marked with * is displayed for approx. 5 seconds on the LCD monitor when the LCD monitor is turned on, and then it disappears. However, the battery pack remaining power indicator "▭" blinks when the power is almost gone.*
  - *During Stop, Fast-Forward or Rewind mode, none of the indications are displayed in the viewfinder.*



Adjust the brightness of the LCD monitor

To brighten the image, turn the **BRIGHT** Dial towards "+". To darken the image, turn the Dial towards "–".

Speaker volume control

You can adjust the speaker volume by turning the **VOLUME** Dial.

1 ADJUST VOLUME

If you want to turn up the volume . . .
Turn the Dial towards "+".

If you want to turn down the volume . . .
Turn the Dial towards "–".

NOTE:

When the LCD monitor is turned off, sound is not heard from the speaker.

Tracking

This function can be used to eliminate noise bars that appear on-screen during playback. Initial setting is Auto Tracking. Manual Tracking is also available.

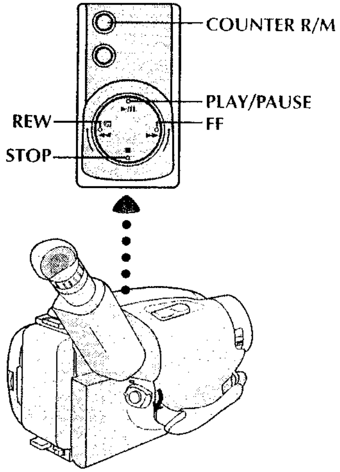
1 ACTIVATE MANUAL TRACKING

Press the MENU Jog Dial during playback mode. Keep rotating it until noise bars disappear.

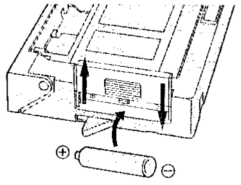
- To return to Auto Tracking, press the MENU Jog Dial. "AT" blinks. When Auto Tracking finishes, the indication disappears.

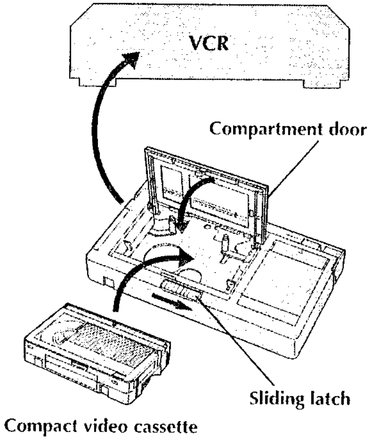
NOTES:

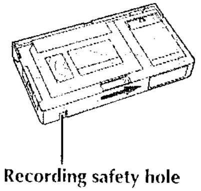
- *When noise bars appear during playback, the camcorder enters the Auto Tracking mode and "AT" is displayed.*
- *Manual Tracking may not work with tapes recorded on other VCRs or camcorders.*

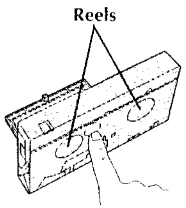


FEATURE:	**Still Playback**
PURPOSE:	To pause during playback.
OPERATION:	1) Press **PLAY/PAUSE** during playback. 2) To resume normal playback, press **PLAY/PAUSE** again.
NOTE:	*Noise bars appear and pictures may become monochrome during Still Playback. This is normal.*
FEATURE:	**Shuttle Search**
PURPOSE:	To allow high-speed search in either direction.
OPERATION:	***Forward Search*** 1) Press **FF** during playback. ***Reverse Search*** 1) Press **REW** during playback.
NOTE:	*Noise bars appear and pictures may become monochrome or darken in Shuttle Search. This is normal.*
FEATURE:	**Counter Memory Function**
PURPOSE:	To make it easier to locate a specific tape segment.
OPERATION:	1) Press **COUNTER R/M** and hold for more than 1 second. The counter resets to "0:00:00". 2) Press **COUNTER R/M** for less than 1 second. "M" appears. 3) After recording or playback, press **STOP**, then **REW**. The tape automatically stops at or close to 0:00:00. 4) Press **PLAY/PAUSE** to start playback.
NOTES:	● *The counter memory functions in the Fast-Forward and Rewind modes.* ● *To disable Counter Memory Function, press **COUNTER R/M** for less than 1 second so the "M" disappears.*









Cassette Adapter

Use this to play back a VHS-C video cassette recorded with this camcorder. It is fully compatible with any VHS video cassette recorder. The C-P7U adapter is battery powered and automatically performs tape loading and unloading.

1 INSERT BATTERY

Slide the battery cover up to remove it, and install one "R6(AA)" size battery as shown in the illustration to the left. Then reattach the cover.

2 INSERT CASSETTE IN ADAPTER

Slide the latch to open the adapter compartment door, then insert the cassette and close the compartment door.

3 PLAY BACK ON CONNECTED VCR

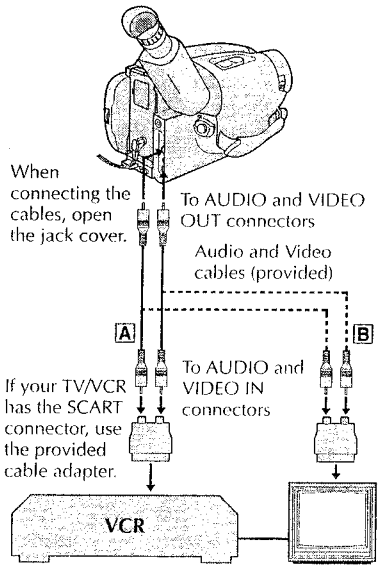
Load the cassette adapter into the VCR and play the tape back as you would any other.

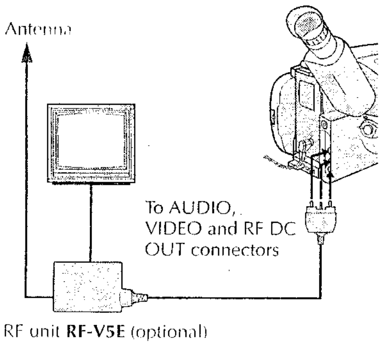
4 REMOVE CASSETTE FROM ADAPTER

Slide the latch and the compartment door opens automatically. This may take around 10 seconds. Do not attempt to force the adapter open. Then insert your finger in the hole on the underside of the adapter as shown in the illustration to the left, push up and remove the cassette.

NOTES:

- *During tape loading and unloading, do not touch the reels for safety and tape protection.*
- *During special-effect playback (slow motion, still frame, etc.), the picture may vibrate or noise bars may appear on the screen.*
- *To record on a VCR using a compact cassette and the adapter, cover the adapter's recording safety hole with adhesive tape.*


When connecting the cables, open the jack cover.
To AUDIO and VIDEO OUT connectors
Audio and Video cables (provided)
A
B
If your TV/VCR has the SCART connector, use the provided cable adapter.
To AUDIO and VIDEO IN connectors
VCR


Antenna
To AUDIO, VIDEO and RF DC OUT connectors
RF unit RF-V5E (optional)

NOTES:

- *It is recommended to use the AC Power Adapter/Charger as the power supply instead of the battery pack.*
- *To monitor the picture and sound from the camcorder without inserting a tape, set the camcorder's Power Switch to "CAMERA", then set your TV to the appropriate input mode.*
- *If you have a TV or speakers that are not specially shielded, do not place the speakers adjacent to the TV as interference will occur in the camcorder playback picture.*

There are three basic types of connections. When making the connections, refer also to your VCR and TV instruction manuals.

Connection To A VCR 🄰 (Editing, Dubbing and Playback)

NOTE:
Use the provided Audio and Video cables.

1 CONNECT CAMCORDER TO VCR

As shown in the illustration to the left, connect the Audio and Video cables between the AUDIO and VIDEO OUT connectors on the camcorder and those on the VCR.

2 SUPPLY POWER

Turn on the camcorder, the VCR and the TV.

3 SELECT MODE

Set the VCR to its AUX input mode, and set the TV to its VIDEO mode.

Connection To A TV With A/V Input Connectors 🄱 (Playback ONLY)

NOTE:
Use the provided Audio and Video cables.

1 CONNECT CAMCORDER TO TV

As shown in the illustration to the left, connect the Audio and Video cables between the AUDIO and VIDEO OUT connectors on the camcorder and those on the TV.

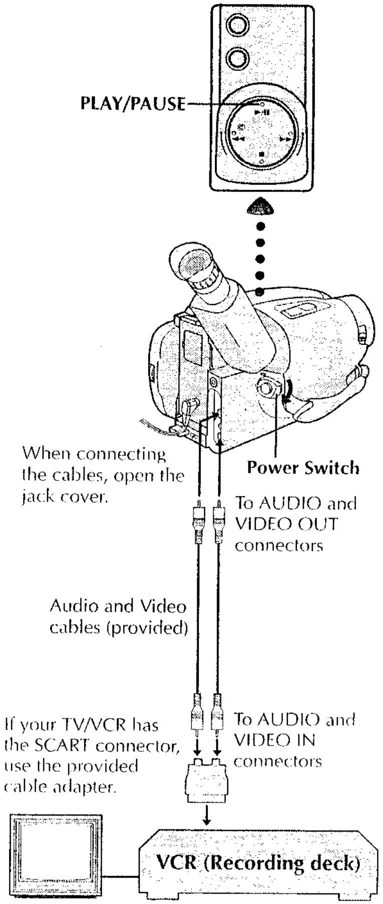
2 SELECT MODE

Set the TV to its VIDEO or AV mode (as specified in its instructions).

Connection To A TV With NO A/V Input Connectors (Playback ONLY)

NOTE:
Use the optional RF-V5E RF unit.

*Refer to the RF-V5E instruction manual for connection procedure.


PLAY/PAUSE
When connecting the cables, open the jack cover.
Power Switch
To AUDIO and VIDEO OUT connectors
Audio and Video cables (provided)
If your TV/VCR has the SCART connector, use the provided cable adapter.
To AUDIO and VIDEO IN connectors
VCR (Recording deck)

Tape Dubbing

1 CONNECT EQUIPMENT

Following the illustration to the left, connect the camcorder and the VCR.

2 PREPARE FOR DUBBING

Set the camcorder's Power Switch to "PLAY", turn on the VCR's power, and insert the appropriate cassettes in the camcorder and the VCR.

3 SELECT VCR MODE

Engage the VCR's AUX and Record-Pause modes.

4 FIND EDIT-IN POINT

Engage the camcorder's Play mode to find a spot just before the edit-in point. Once it's reached, press **PAUSE** on the camcorder.

5 START EDITING

Press **PLAY** on the camcorder and engage the VCR's Record mode.

6 STOP EDITING TEMPORARILY

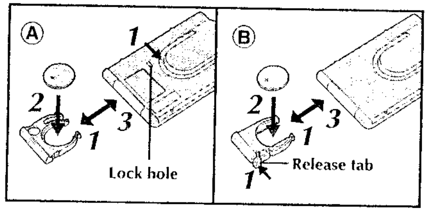
Engage the VCR's Record-Pause mode and press **PAUSE** on the camcorder.

7 EDIT MORE SEGMENTS

Repeat steps **4** through **6** for additional editing, then stop the VCR and camcorder when finished.

USING REMOTE CONTROL UNIT

The Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (PLAY, STOP, PAUSE, FF, and REW) of your VCR. This remote control unit makes additional recording functions possible.



INSTALLING THE BATTERY

1 PULL OUT BATTERY HOLDER

Type Ⓐ : Pull out while sliding the lock hole.
Type Ⓑ : Pinch the release tab and pull out.

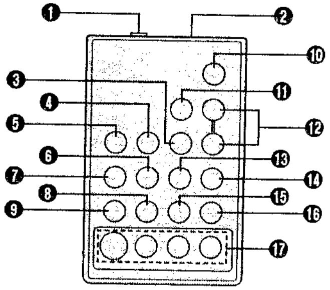
2 INSERT BATTERY

Making sure the plus (+) side is up, insert the lithium battery (CR2025)* into the battery holder.

3 REPLACE BATTERY HOLDER

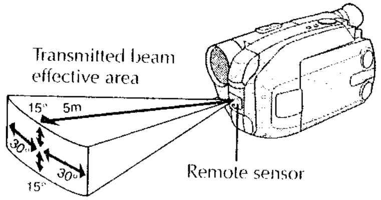
Insert the battery holder into the remote control unit, and push the holder until it clicks into place.

*Read the caution concerning lithium batteries (☞ pg. 2).

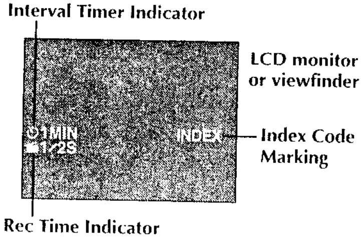


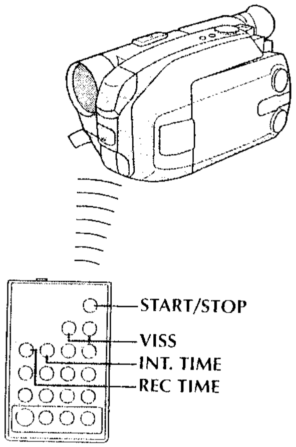
RM-V700U (optional)

BUTTONS	FUNCTIONS	
	With the camcorder's power switch set to "CAMERA".	With the camcorder's power switch set to "PLAY".
① PAUSE IN Connector	—	☞ pg. 45
② Infrared beam transmitting window	Transmits the beam signal.	
③ MBR SET Button	—	☞ pg. 44
④ INT. TIME Button	Self-Timer/Time-Lapse (☞ pg. 43)	—
⑤ REC TIME Button	Animation/Time-Lapse (☞ pg. 43)	—
⑥ FF Button	Retake (forward) (☞ pg. 17)	FF/FF Shuttle Search (☞ pg. 36, 38)
⑦ REW Button	Retake (rewind)/Quick Review (☞ pg. 17)	Rew/Rew Shuttle Search (☞ pg. 36, 38)
⑧ PAUSE Button	—	Pause (☞ pg. 36)
⑨ PLAY Button	—	Playback start (☞ pg. 36)
⑩ START/STOP Button	Functions same as the Recording Start/Stop button on the camcorder.	
⑪ VISS Button	Index Code marking (☞ pg. 43)	—
⑫ ZOOM (T/W) Buttons	Zoom in/out (☞ pg. 16)	—
⑬ VCR CTL Button	—	☞ pg. 44
⑭ A.DUB Button	—	Audio dubbing (☞ pg. 49)
⑮ STOP Button	—	Stop (☞ pg. 36)
⑯ INSERT Button	—	Insert Editing (☞ pg. 48)
⑰ R.A.EDIT Buttons	—	☞ pg. 46



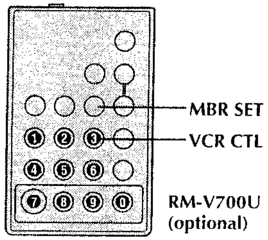
When using the remote control, be sure to point it at the remote sensor. The above illustration shows the approximate transmitted beam effective area for indoor use.
The transmitted beam may not be effective or may cause incorrect operation outdoors or when the remote sensor is directly exposed to sunlight or powerful lighting.





RM-V700U (optional)

FEATURE:	**Self-Timer, Animation and Time-Lapse**
PURPOSE:	The remote control lets you set/release Interval Timer and Rec Time functions as well as the Menu Screen.
OPERATION:	***Self-Timer*** **1) Set** Instead of performing steps **1** through **4** on pg. 34 ("Self-Timer"), press **INT. TIME** on the remote control. Each time **INT. TIME** is pressed, the Interval Timer indicator appears, changing in the following order: 15S, 30S, 1MIN, 5MIN and No indication (off). **2) Release** Instead of setting "INT. TIME" to "OFF" in the Menu, press **INT. TIME** on the remote control until the Interval Timer indicator disappears. ***Animation*** **1) Set** Instead of performing steps **1** and **2** on pg. 35 ("Animation"), press **REC TIME** on the remote control. Each time **REC TIME** is pressed, the Rec Time indicator appears, changing in the following order: 1/4S, 1/2S, 1S, 5S and No indication (off). **2) Release** Instead of using the Menu in step **5** on pg. 35, press **REC TIME** on the remote control until the Rec Time indicator disappears. ***Time-Lapse*** **1) Set** Instead of performing steps **1** through **3** on pg. 35 ("Time-Lapse"), press **INT. TIME** and **REC TIME** on the remote control. Each time **INT. TIME** is pressed, the Interval Timer indicator appears, changing in the following order: 15S, 30S, 1MIN, 5MIN and No indication (off). Each time **REC TIME** is pressed, the Rec Time indicator appears, changing in the following order: 1/4S, 1/2S, 1S, 5S and No indication (off). **2) Release** Instead of using the Menu in step **5** on pg. 35, press **INT. TIME** and **REC TIME** on the remote control until the indicators disappear.
NOTE:	*Also refer to pg. 34 and 35.*
FEATURE:	**Index Code Marking**
PURPOSE:	To give you automatic access to any selected point on a recording.
OPERATION:	1) Press **VISS** once to place the index code. "INDEX" blinks during marking.
NOTE:	*If **VISS** is pressed during Record-Standby mode, the mark is placed where **START/STOP** is pressed.*


MBR SET
VCR CTL

RM-V700U (optional)

VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)
AKAI	❻ ❷ ❻ ❹ ❼ ❼
BLAUPUNKT	❶ ❸
FERGUSON	❾ ❼ ❾ ❽ ❸ ❷
GRUNDIG	❶ ❹ ❸ ❹
HITACHI	❻ ❻ ❻ ❸
JVC A B C	❾ ❶ ❾ ❻ ❾ ❸
MITSUBISHI	❻ ❼ ❻ ❽
NEC	❸ ❼ ❸ ❽
PANASONIC	❶ ❸ ❶ ❼ ❶ ❶ ❾ ❹ ❶ ❽

VCR BRAND NAME	BUTTONS (A) (B)
PHILIPS	❶ ❾ ❾ ❺ ❶ ❶ ❾ ❹ ❾ ❶ ❾ ❻ ❶ ❷ ❸ ❸ ❼ ❷
SANYO	❸ ❻ ❸ ❺
SELECO, REX	❾ ❶ ❾ ❻
SHARP	❶ ❺ ❶ ⓿
SONY	❻ ❺ ❻ ⓿ ❸ ❾ ❸ ❶
THOMSON, TELEFUNKEN, SABA, NORDMENDE	❾ ❶ ❾ ❻ ❾ ❼ ❸ ❷
TOSHIBA	❻ ❾ ❻ ❶

Random Assemble Editing [R.A.Edit]

Create edited videos easily using your camcorder as the source player. You can select up to 8 "cuts" for automatic editing, in any order you like. R.A.Edit is more easily performed when the optional RM-V700U MBR (Multi-Brand Remote, ☞ pg. 42) is set to operate with your brand of VCR (see VCR CODE LIST), but can also be performed by operating the VCR manually.
Before operation, make sure the lithium battery is installed in the remote control RM-V700U (☞ pg. 42).

SET REMOTE/VCR CODE

1 SET REMOTE TO OPERATE VCR

Turn off the power to the VCR and point the remote towards the VCR's infrared sensor. Then, referring to the VCR CODE LIST on the left, press and hold **MBR SET**, and press button **(A)** and then **(B)**.

- The code is automatically set once you release the **MBR SET** button, and the VCR's power comes on.

2 OPERATE VCR

Make sure the VCR's power is on. Then, while holding **VCR CTL**, press the button on the remote for the desired function. The functions the remote can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY (you don't need to press **VCR CTL** for this one).

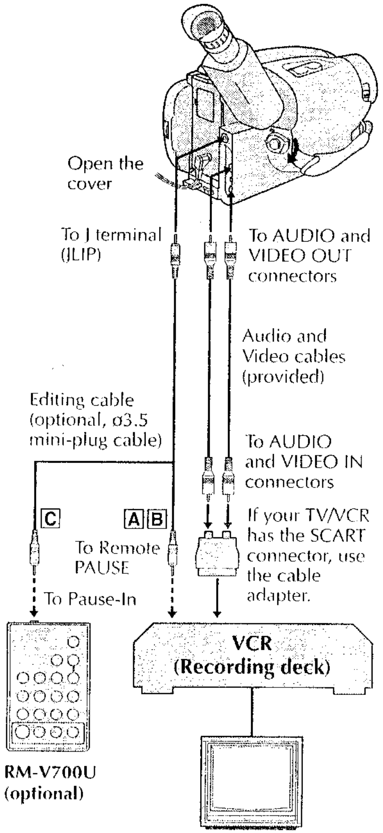
You're now ready to try Random Assemble Editing.

IMPORTANT

Although the MBR is compatible with JVC VCRs and those of many other makers, it may not work with yours or may offer limited functions.

NOTES:

- *If the VCR's power doesn't come on in step 1, try another code from the VCR CODE LIST.*
- *Some brands of VCR don't come on automatically. In this case, turn the power on manually and try step 2.*
- *If the RM-V700U is not able to control the VCR, use the controls on the VCR.*


Open the cover
To J terminal (JLIP)
To AUDIO and VIDEO OUT connectors
Audio and Video cables (provided)
Editing cable (optional, ø3.5 mini-plug cable)
To AUDIO and VIDEO IN connectors
🄲
🄰🄱
To Remote PAUSE
To Pause-In
If your TV/VCR has the SCART connector, use the cable adapter.
VCR (Recording deck)
RM-V700U (optional)

MAKE CONNECTIONS

1 CONNECT TO . . .

🄰 **JVC VCR EQUIPPED WITH REMOTE PAUSE TERMINAL**
Connect the editing cable to the Remote PAUSE terminal.

🄱 **JVC VCR NOT EQUIPPED WITH REMOTE PAUSE TERMINAL BUT EQUIPPED WITH R.A. EDIT CONNECTOR**
Connect the editing cable to the R.A.EDIT connector.

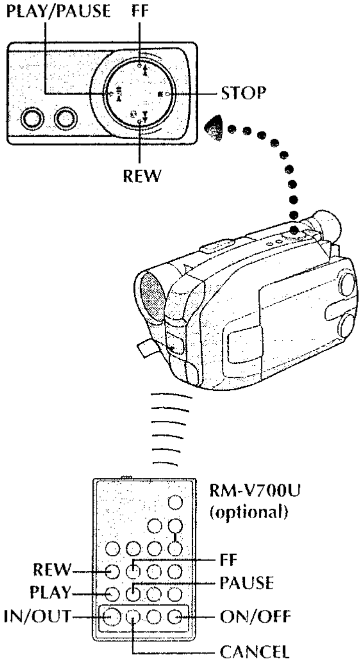
🄲 **VCR OTHER THAN TYPE 🄰 OR 🄱**
Connect the editing cable to the RM-V700U's Pause-In jack.

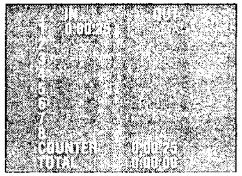
2 PREPARE CAMCORDER

Insert a recorded tape and set the Power Switch to "PLAY".

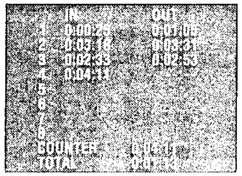
3 PREPARE VCR

Turn the power on, insert a recordable tape and engage the AUX mode (refer to VCR's instructions).





```
   IN         OUT
1  0:00:25
2
3
4
5
6
7
8
COUNTER    0:00:25
TOTAL      0:00:00
```



```
   IN         OUT
1  0:00:25    0:01:00
2  0:03:18    0:03:31
3  0:02:33    0:02:53
4  0:04:11
5
6
7
8
COUNTER    [illegible]
TOTAL      [illegible]
```

SELECT SCENES

1 ACCESS R.A. EDIT COUNTER DISPLAY

Press **PLAY/PAUSE**, then press **ON/OFF** and the counter display appears on the LCD monitor or in the viewfinder and the screen of the connected TV.

2 REGISTER BEGINNING OF SCENE

Press **REW** or **FF** to locate the beginning of a scene you want, then press **IN/OUT** to register that point. The data appears under "IN" on the display.

3 REGISTER END OF SCENE

Press **REW** or **FF** to locate the end of the scene and press **IN/OUT** to register it. The data appears under "OUT" on the display. The total time of the registered scene(s) is displayed at the bottom of the screen.

4 REGISTER ADDITIONAL SCENES

Repeat steps **2** and **3** for each additional scene (as many as 8).

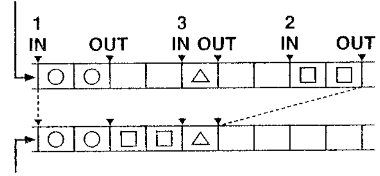
5 MAKE CORRECTIONS

Press **CANCEL** during steps **2** and **3** to erase the most recently registered point.

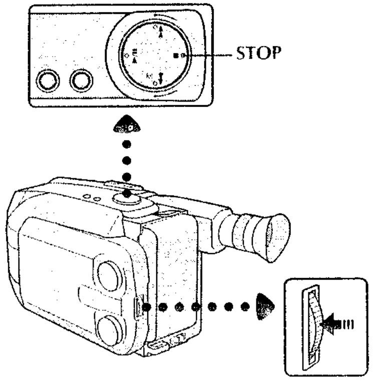
NOTES:

- *There must be at least one second between an in-point and its corresponding out-point.*
- *To ensure correct operation, there should be at least 15 seconds between an out-point and the next in-point.*
- *Blank portions of tape cannot be registered as in-points or out-points.*
- *If it takes more than 5 minutes to search for an in-point, the VCR's Record-Pause mode is cancelled and editing doesn't take place.*
- *Pressing **ON/OFF** clears all in- and out-points from memory.*
- *Leave a small margin for error around each in-point to ensure the scene is recorded in its entirety.*

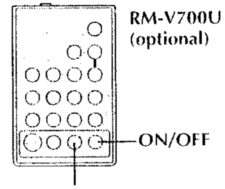
Original tape (camcorder)



Edited tape (VCR)



MENU Jog Dial



VCR REC STBY

AUTOMATIC EDITING TO VCR

1 ENGAGE VCR'S RECORD-PAUSE MODE

Point the remote control towards the VCR's infrared sensor and press **VCR REC STBY**, or manually engage the VCR's Record-Pause mode.

2 BEGIN AUTOMATIC EDITING

Press the **MENU Jog Dial** on the camcorder, and the previously selected scenes are copied to the VCR in the specified order.

While editing, the R.A. Edit counter of the scene which is beging copied is shown with a blinking highlight.

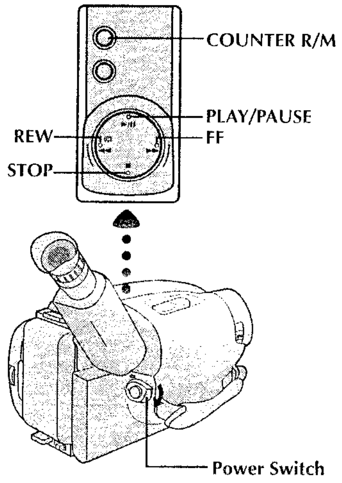
3 END AUTOMATIC EDITING

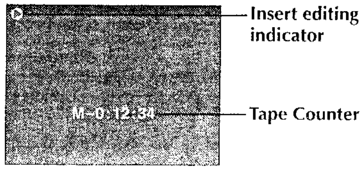
When all selected scenes have been copied, the camcorder and VCR enter the still or pause mode. Press **STOP** on both units. To make the R.A. Edit counter display disappear, press **ON/OFF**.

- When finished editing, be sure to disconnect the editing cable and the audio/video cable.

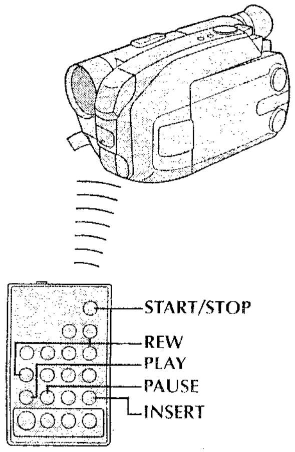
NOTES:

- *If you performed step 1C on page 45 ("MAKE CONNECTIONS"), keep the remote control pointed at the VCR during editing.*
- *The on-screen display only appears while the camcorder searches for each scene.*
- *There may be noise at in- or out-points on the edited tape with certain VCRs.*





LCD monitor or viewfinder



RM-V700U
(optional)

Insert Editing

You can record a new scene into a previously recorded tape, replacing a section of the original recording with minimal picture distortion at the in- and out-points. The original audio remains unchanged.

NOTE:

Use the RM-V700U remote control unit to perform this procedure.

1 SELECT MODE

Set the Power Switch to "PLAY".

2 FIND EDIT-OUT POINT

Play back the tape, locate the point and press **PAUSE** on the camcorder or the remote control.

3 RESET COUNTER

Press and hold **COUNTER R/M** for more than 1 second to reset the tape counter, then press again for less than 1 second and make sure "M" appears.

4 FIND EDIT-IN POINT

Press **REW** to go a little beyond the beginning of the scene you want to replace, press **PLAY** to view the recorded tape, and press **PAUSE** exactly at the point where the new scene should start.

5 ENGAGE INSERT EDITING MODE

Press and hold **INSERT**, and without releasing **INSERT**, press and release **PAUSE**. The Insert mode is engaged. When the scene the camcorder is aimed at appears on the screen, go to the next step.

6 BEGIN INSERT EDITING

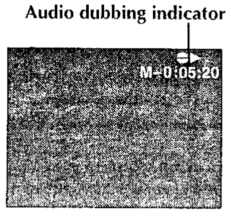
Press **START/STOP**. When the counter reaches "0:00:00", editing stops automatically and the camcorder enters the Insert-Pause mode.

7 END INSERT EDITING

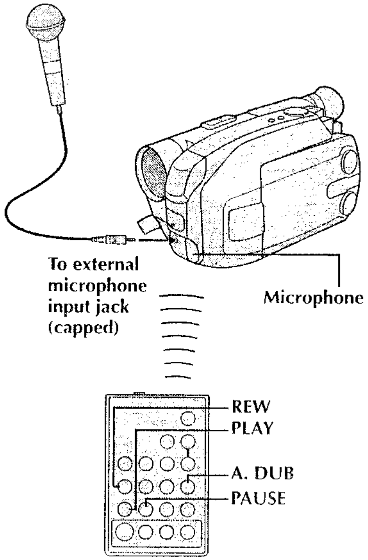
Press **STOP**.

NOTES:

- *When Insert Editing is performed with the LCD monitor fully opened, the original audio will be heard from the speaker.*
- *After step **5**, Retake (☞ pg. 17) can be performed.*
- *The tape may stop slightly before or after the designated end point, and noise bars may appear. Neither indicates a defect in the unit.*
- *Only video signal is recorded in the Insert Editing mode.*



LCD monitor or viewfinder



RM-V700U
(optional)

Audio Dubbing

You can record a new soundtrack on a prerecorded tape (normal audio only).

Perform steps **1**, **2** and **3** of the Insert Editing procedure (☞ pg. 48) before continuing.

- The sound comes from the built-in microphone (or an external microphone if connected).

1 FIND EDIT-IN POINT

Press **REW** to go a little beyond the beginning of the scene onto which you want to dub new audio, press **PLAY** to view the recorded tape, then press **PAUSE** at exactly the point where dubbing should start.

2 ENGAGE AUDIO DUB-STANDBY MODE

Press and hold **A. DUB**, and without releasing **A. DUB**, press and release **PAUSE**.

3 BEGIN AUDIO DUBBING

Press **PLAY**. When the counter reaches "0:00:00", Audio Dubbing stops automatically and the camcorder enters the Audio Dub-Standby mode.

4 END AUDIO DUBBING

Press **STOP**.

NOTES:

- *Do not press **FF** or **REW** during Audio Dub-Standby, or the edit points will not be accurate.*
- *If the microphone is too close to the TV, or if the TV's volume is too high, whistling or howling may occur.*

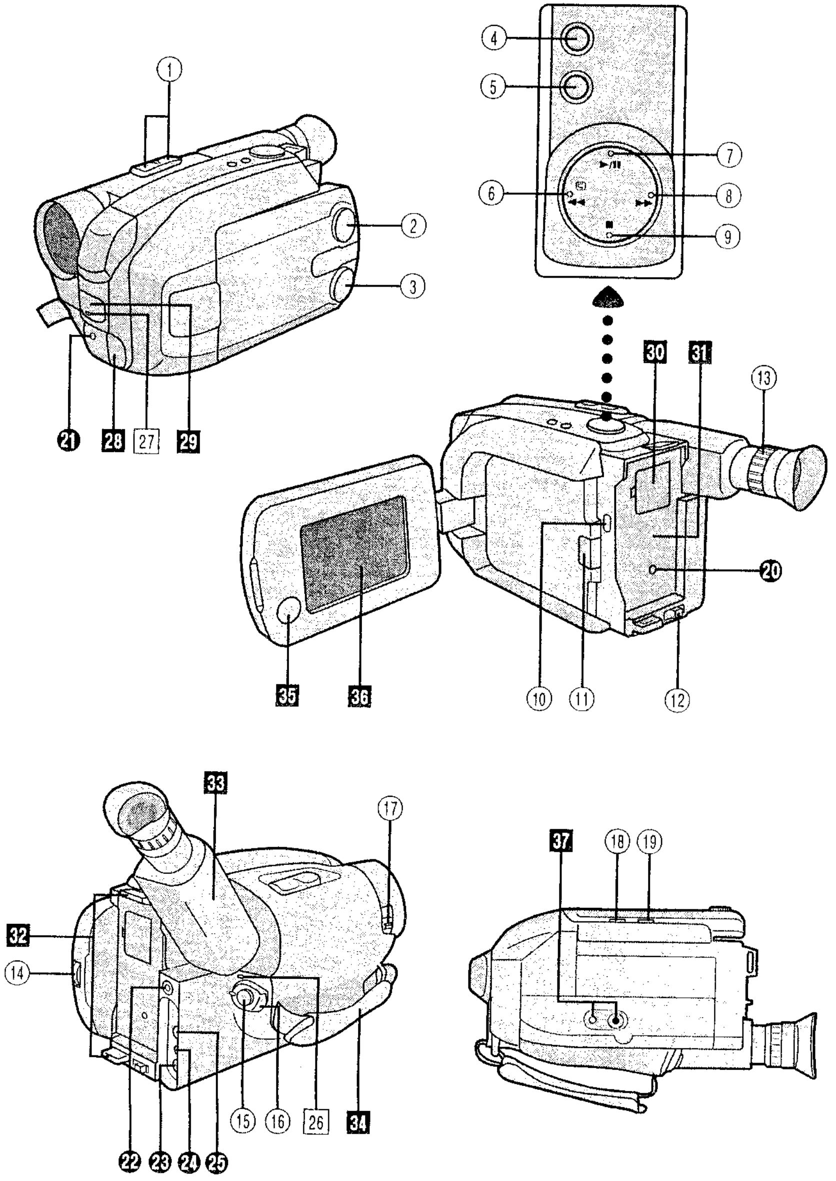
NOTES (for Insert Editing and Audio Dubbing):

- *Insert Editing and audio Dubbing may not work correctly if the tape contains blank segments, or if the recording speed was changed during the original recording.*
- *To edit/dub onto a tape, make sure the Erase Protection tab is in the position that allows recording. If not, slide the tab. Some cassettes have removable tabs. If the tab has been removed, cover the hole with adhesive tape.*
- *Do not press **STOP** during Insert Editing or Audio Dubbing, or the edit points will not be accurate.*
- *During Insert Editing and Audio Dubbing, when Insert-Pause or Audio Dub-Standby is engaged, the counter may go slightly past "0:00:00". Recording, however, stops at exactly 0:00:00.*

SYMPTOM	POSSIBLE CAUSE(S)
POWER	
No power is supplied.	• The battery pack has not been attached correctly (☞ pg. 4). • The battery pack is not charged (☞ pg. 4). • The power supply has not been correctly connected (☞ pg. 5).
The power suddenly goes off and doesn't come back on by itself.	• The battery pack has completely discharged. • Remove the cassette and disconnect the power source, then after a few minutes, try turning the power back on. If it still doesn't come on, consult your nearest JVC dealer.
RECORDING	
Recording cannot be performed.	• Make sure the Erase Protection tab is in the position that allows recording. If not, slide the tab. Some cassettes have removable tabs. If the tab has been removed, cover the hole with adhesive tape.
Recording does not start.	• The camcorder Power Switch has not been set to "CAMERA" (☞ pg. 12).
PLAYBACK	
The tape is running, but there's no playback picture.	• The TV has not been set to its VIDEO mode. • If A/V connection is used, the TV's VIDEO/TV Switch has not been set to VIDEO. • The RF unit has not been set to the correct channel.
Playback picture is blurred or interrupted.	• The video heads are dirty or worn out. Consult your nearest JVC dealer for head cleaning or replacement.
The counter indication is blurred during Still playback.	• This is normal.
TAPE TRANSPORT	
The tape stops during fast-forward or rewind.	• The Counter Memory Function has been activated (☞ pg. 38).
Rewinding or fast-forwarding cannot be performed.	• The tape is already fully wound on one reel or the other.

SYMPTOM	POSSIBLE CAUSE(S)
OTHER	
The tape won't eject.	• The battery pack is running low. • If the LCD monitor is not open over 45 degrees, EJECT switch does not function.
Some functions are not available.	• The Select Dial is set to "AUTO LOCK".
Vertical white lines appear when shooting a very bright object.	• This sometimes occurs when the contrast between the background and the object is great. It is not a defect of the camcorder.
Bright, crystal-shaped spots appear in the LCD monitor and the viewfinder.	• Sunlight is directly entering the lens. This is not a defect of the camcorder.
The rear of the LCD monitor is hot.	• The light used to illuminate the LCD monitor causes it to be hot. Close the LCD monitor to turn it off or set the Power Switch to OFF, and let the unit cool down.
Coloured bright spots appear all over the LCD monitor.	• The LCD monitor is made with high-precision technology. However, black spots or bright spots of light (red, green or blue) may appear constantly on the LCD monitor. These spots are not recorded on the tape. This is not due to any defect of the unit. (Effective dots: more than 99.99 %.)
The indicators and the picture colour on the LCD monitor are not clear.	• This may occur when the surface or the edge of the LCD monitor is pressed.
The LCD monitor, the viewfinder and the lens have become dirty (ex. fingerprints).	• Wipe them gently with soft cloth. Gently wipe the LCD monitor in a semicircle because wiping strongly spreads the stain and it won't come out easily.
An error number (i.e. E03) appears.	• Turn the camcorder's power off, then disconnect the power source. After a few minutes, try turning the power on again. If the error number still appears, consult your nearest JVC dealer.
The image is out of focus.	• The dioptre needs to be adjusted (☞ pg. 10). • The scene being shot is adversely affecting the operation of Auto Focus (☞ pg. 30).
The date and time displays disappear.	• If you remove the power source from the camcorder while the power is on, all settings and selections are erased. Make sure to turn the camcorder's power off before disconnecting the power source.
The wrong date and time are displayed/recorded.	• If you have not performed Date/Time Setting (☞ pg. 7), the date and time are not displayed/recorded correctly. Be sure that Date/Time setting is carried out.
Even though the Lens Cover is open, the Lens Cover Warning indicator blinks.	• The Lens Cover Warning indicator may blink when the camcorder is used in dark areas, regardless of the position of the Lens Cover.

The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and clock battery; and then re-connect it and proceed as usual from the beginning.



Controls

① Power Zoom Button	☞ pg. 16
② Multi-Function Control	
• EFFECT Button	☞ pg. 22
• WIDE Button	☞ pg. 23
• TITLE Button	☞ pg. 24
• SUPER LOLUX Button	☞ pg. 23
③ Select Dial	☞ pg. 20
④ DATE/TIME Button	☞ pg. 19
COUNTER R/M Button	☞ pg. 38
⑤ P. [Picture] STABILIZER Button	☞ pg. 18
⑥ REW Button	☞ pg. 36
RETAKE R [Quick Review] Button	☞ pg. 17
⑦ PLAY/PAUSE Button	☞ pg. 36
⑧ FF Button	☞ pg. 36
RETAKE F Button	☞ pg. 17
⑨ STOP Button	☞ pg. 36
⑩ EJECT Switch	☞ pg. 9
⑪ PUSH Button	☞ pg. 9
⑫ BATT. [Battery] RELEASE Switch	☞ pg. 4
⑬ Dioptre Adjustment	☞ pg. 10
⑭ Function Navigator Dial [MENU Jog Dial]	☞ pg. 7
⑮ Recording Start/Stop Button	☞ pg. 12
⑯ Power Switch	☞ pg.12, 36
⑰ LENS COVER Switch	☞ pg. 12
⑱ BRIGHT Dial	☞ pg. 37
⑲ VOLUME Dial	☞ pg. 37

Connectors

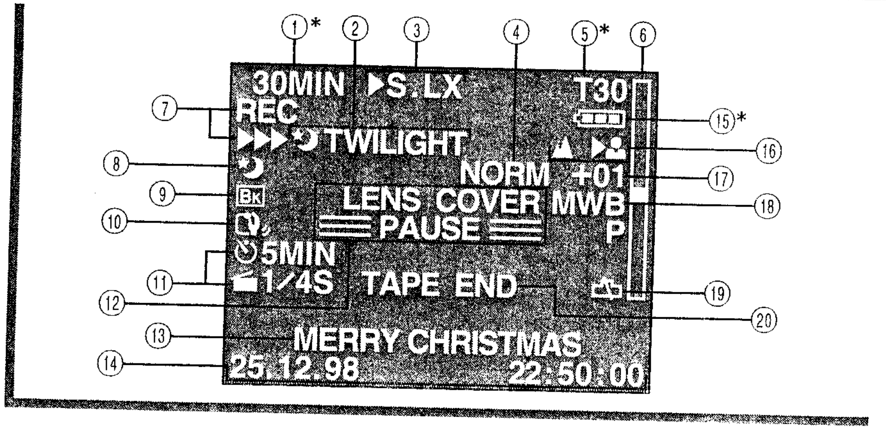
⓴ DC IN Jack	☞ pg. 5
The jacks ㉑ to ㉕ are located beneath the jack cover.	
㉑ External Microphone Input Jack	☞ pg. 49
㉒ J terminal [JLIP (Joint Level Interface Protocol) Connector.]	
• Connect the editing cable when performing, Random Assemble Editing (☞ pg. 44 – 47).	
• It is used to connect the camcorder to a device such as a personal computer. For further detail consult your nearest JVC dealer.	
• JLIP-controlled editing from camcorder to VCR is not possible if the VCR is not equipped with a J terminal.	
㉓ VIDEO OUT Connector	☞ pg. 40
㉔ RF DC OUT Connector	☞ pg. 40
㉕ AUDIO OUT Connector	☞ pg. 40

Indicators

[26] Power Indicator	☞ pg. 12
[27] Tally Lamp	☞ pg. 12

Other Parts

[28] Microphone	☞ pg. 49
[29] • Camera sensor Be careful not to cover this area; built-in here is the sensor necessary for shooting.	
• Remote Sensor	☞ pg. 43
[30] Clock Battery Compartment	☞ pg. 6
[31] Battery Pack Mount	☞ pg. 4
[32] Shoulder Strap Eyelets	☞ pg. 11
[33] Electronic Viewfinder	☞ pg. 10
[34] Grip Strap	☞ pg. 10
[35] Speaker	☞ pg. 37
[36] LCD monitor	☞ pg.14, 36
[37] Tripod Mounting Socket	☞ pg. 11



LCD monitor/Viewfinder Indications

①*Cassette Warning/
Tape Remaining Time .... ☞ pg. 13
When no cassette is inserted: the cassette (▣) warning blinks.
When Erase Protection tab is not in the position that allows recording: the cassette (▣) warning lights. Otherwise, the tape remaining time is displayed and the **tape remaining time warning†** blinks when the tape is about to reach its end.
When the Power Switch is set to "PLAY" and a tape is loaded: the cassette (▣) mark is displayed regardless of the Erase Protection tab's position.

②, ⑧ Programme AE Indicator .... ☞ pg. 20
Displayed at ② for approx. 1 second when the Select Dial is switched from one position to another. Then only the indicator remains at ⑧.

②, ⑨ Fade/Wipe-Standby Indicator .... ☞ pg. 22
Displayed at ② for approx. 2 seconds when the Fade/Wipe is switched from one function to another by pressing the EFFECT button. Then only the indicator remains at ⑨.

③ Multi-Function Control
Indication .... ☞ pg. 22, 23
Displayed when any of the buttons located on the Multi-Function Control is pressed. The indication disappears within approx. 2 seconds.

④ Super LoLux Indicator .... ☞ pg. 23
⑤*Tape Length Indicator .... ☞ pg. 8
⑥ Zoom Indicator Bar .... ☞ pg. 16
⑦ Recording Indicator .... ☞ pg. 12
⑩ Picture Stabiliser Indicator .... ☞ pg. 18
⑪ Interval Timer/Recording Time
Indicator .... ☞ pg. 34
⑫ • Record–Standby Mode Indicator ...... ☞ pg. 12
• Lens Cover Warning:
LENS COVER .... ☞ pg. 13

⑬ Instant Title Display .... ☞ pg. 24
⑭ Date/Time/Character Display .... ☞ pg. 19
⑮*Battery Pack Remaining Power Indicator
Changes as follows according to the battery pack's remaining power level:
"■■■→■■→■→□". When the power is almost gone, the indicator "□" blinks (**battery power warning†**), then the unit shuts off. Replace the battery pack with a fully charged one.
Note: The symbol containing 3 darkened squares — ■■■ — does not necessarily mean that the battery pack is fully charged.

⑯ Focus Indicator .... ☞ pg. 31
⑰ Exposure Control Level Counter .... ☞ pg. 29
⑱ White Balance Mode Indicator .... ☞ pg. 32
⑲ Clock Battery Warning
Blinks for approx. 10 seconds when the power is turned on. This display also blinks when the clock (lithium) battery is either not installed or has discharged. Install or replace the old battery with a new one (☞ pg. 6).

⑳ • Tape End Display: TAPE END .... ☞ pg. 13
Appears when the end of the tape is reached during playback, recording or fast-forward.
• Condensation Warning: 💧
When this indication appears, all functions except tape eject and power on/off are disabled. Turn the unit off (without removing the power source) for a few hours, and when you turn it on again the indication should disappear.

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*: Displayed for approx. 5 seconds on the LCD monitor when the LCD monitor is turned on, and then disappear. However, the indications marked † are not displayed.

CAUTIONS

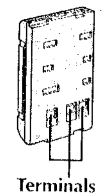
General Battery Precautions

- When the C-P6U or C-P7U (cassette adapter) is not functioning even when correctly operated, the battery is exhausted. Replace it with a fresh one.
- Use only the following battery:
  C-P6U or C-P7U .... R6 (AA) size

Please make note of the following rules for battery use. When misused, battery can leak or explode.

1. Refer to the C-P6U/C-P7U instructions when replacing the battery.
2. **Do not** expose the battery to excessive heat as it can leak or explode.
3. **Do not** dispose of battery in a fire.
4. Remove battery from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

Battery Packs



The supplied battery pack is a nickel-cadmium battery. Before using the supplied battery pack or an optional battery pack, be sure to read the following cautions:

1. **To avoid hazard . . .**
   .... **do not** burn.
   .... **do not** short-circuit the terminals.
   .... **do not** modify or disassemble.
   .... use only specified chargers.
2. **To prevent damage and prolong service life . . .**
   .... **do not** subject to unnecessary shock.
   .... avoid repeated charging without fully discharging.
   .... charge in an environment where temperatures are within the tolerances shown in the chart below. This is a chemical reaction type battery—cooler temperatures impede chemical reaction, while warmer temperatures can prevent complete charging.
   .... store in a cool, dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
   .... avoid prolonged uncharged storage.
   .... remove from charger or powered unit when not in use, as some machines use current even when switched off.

NOTES:

- *It is normal for the battery pack to be warm after charging, or after use.*

Temperature Range Specifications

Charging	10°C to 35°C
Operation	0°C to 40°C
Storage	-10°C to 30°C

- *Recharging time is based on room temperature of 20°C.*
- *The lower the temperature, the longer recharging takes.*

Cassettes

To properly use and store your cassettes, be sure to read the following cautions:

1. **During use . . .**
   .... make sure the cassette bears the VHS-C mark.
   .... be aware that recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
   .... make sure the cassette is positioned properly when inserting.
   .... do not load and unload the cassette repeatedly without allowing the tape to run at all. This slackens the tape and can result in damage.
   .... do not open the front tape cover. This exposes the tape to fingerprints and dust.
2. **Store cassettes . . .**
   .... away from heaters or other heat sources.
   .... out of direct sunlight.
   .... where they won't be subject to unnecessary shock or vibration.
   .... where they won't be exposed to strong magnetic fields (such as those generated by motors, transformers or magnets).
   .... vertically, in their original cases.

Main Unit

1. **For safety, DO NOT . . .**
   .... open the camcorder's chassis.
   .... disassemble or modify the unit.
   .... short-circuit the terminals of the battery pack. Keep it away from metallic objects when not in use.
   .... allow inflammables, water or metallic objects to enter the unit.
   .... remove the battery pack or disconnect the power supply while the power is on.
   .... leave the battery pack attached when the camcorder is not in use.
2. **Avoid using the unit . . .**
   .... in places subject to excessive humidity or dust.
   .... in places subject to soot or steam such as near a cooking stove.
   .... in places subject to excessive shock or vibration.
   .... near a television set.
   .... near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
   .... in places subject to extremely high (over 40°C) or extremely low (under 0°C) temperatures.
3. **DO NOT leave the unit . . .**
   .... in places of over 50°C.
   .... in places where humidity is extremely low. (below 35%) or extremely high (above 80%).
   .... in direct sunlight.
   .... in a closed car in summer.
   .... near a heater.

4. **To protect the unit, DO NOT . . .**
   .... allow it to become wet.
   .... drop the unit or strike it against hard objects.
   .... subject it to shock or excessive vibration during transportation.
   .... keep the lens directed at extremely bright objects for long periods.
   .... direct the eyepiece of the viewfinder at the sun.
   .... carry it by holding the viewfinder or the LCD monitor. Be sure to hold the main unit with both hands or use the grip.
   .... swing it excessively when using the shoulder strap.

LCD monitor

1. **To prevent damage to the LCD monitor, DO NOT . . .**
   .... push it strongly or apply any shocks.
   .... place the camcorder with the LCD monitor on the bottom.
2. **To prolong service life . . .**
   .... avoid rubbing it with coarse cloth.
3. **Be aware of the following phenomena for LCD monitor use. These are not malfunctions . . .**

- While using the camcorder, the surface around the LCD monitor and/or the back of the LCD monitor may heat up.
- If you leave power on for a long time, the surface around the LCD monitor becomes hot.

About moisture condensation . . .

- You may have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass' outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

For Your Maintenance

1. **After Use**
   ① Set the power switch to "POWER OFF" to turn off the camcorder.
   ② Press EJECT to open the cassette holder, then remove the cassette.
   ③ Close and lock the cassette holder by pressing PUSH.
   ④ Close and lock the LCD monitor.
   ⑤ Slide BATT. RELEASE to remove the battery pack.
   ⑥ Slide the LENS COVER open/close switch to close the lens cover.
2. **Cleaning The Camcorder**
   ① **CLEAN EXTERIOR**
   Wipe gently with a soft cloth.
   ② **CLEAN LCD MONITOR**
   Open the LCD monitor and wipe gently with soft cloth. Be careful not to damage the monitor. Close the LCD monitor.
   ③ **CLEAN LENS**
   Blow it with a blower brush, then wipe gently with lens cleaning paper.
   ④ **REMOVE EYEPIECE**
   Turn the eyepiece counterclockwise and pull it out.
   ⑤ **CLEAN VIEWFINDER**
   Remove dust using a blower brush.
   ⑥ **RE-ATTACH EYEPIECE**
   Align the marks, re-attach the eyepiece and turn it clockwise.

NOTES:

- *Avoid using strong cleaning agents such as benzine or alcohol.*
- *Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.*
- *Mould may form if the lens is left dirty.*

SPECIFICATIONS

GENERAL

Format	: VHS PAL standard
Power source	: DC 6V ⎓
Power consumption	
LCD monitor off, viewfinder on	: 6.0 W
LCD monitor on, viewfinder off	: 6.3 W
LCD monitor on, viewfinder on	: 7.0 W
Signal system	: PAL-type
Video recording system	
Luminance	: FM recording
Colour	: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: VHS C cassette
Tape speed	: 23.39 mm/sec
Recording time (max.)	: 60 minutes (with EC-60 cassette)
Operating temperature	: 0°C to +40°C
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to +50°C
Weight	: Approx. 980 g
Dimensions (Including viewfinder)	: 116 (W) x 117 (H) x 242 (D) mm

CAMERA

Pick up	: 1/4" format CCD
Lens	: F1.6, f = 3.8 to 83.6 mm, 22:1 power zoom lens with auto iris and macro control, filter diameter 46 mm
Viewfinder	: Electronic viewfinder with 0.5" black/white CRT
White balance adjustment	: Auto/Manual adjustment

LCD MONITOR

Size	: 3" diagonally measured
LCD system	: LCD/TFT active matrix system

VIDEO

Output	: 1 Vp-p, 75 ohms, unbalanced (via VIDEO OUT connector)

AUDIO

Output	: –8 dBs, 1 k-ohm (via AUDIO OUT connector)
Speaker	: 20 mm round x 1, monaural
External microphone input	: –68 dBs, high impedance unbalanced with ø3.5 mm (MONO)

AC POWER ADAPTER/BATTERY CHARGER (AA-V15EG)

Power requirement	: AC 110 V to 240 V∿, 50/60 Hz
Power consumption	: 23 W
Output	
Charge	: DC 8.5 V ⎓, 1.3 A
VTR	: DC 6.3 V ⎓, 1.8 A
Charging system	: Constant current, peak detection, timer controlled
Dimensions	: 140 (W) x 42 (H) x 68 (D) mm
Weight	: Approx. 300 g

CASSETTE ADAPTER (C-P7U)

Dimensions	: 188 (W) x 25 (H) x 104 (D) mm
Weight	: Approx. 240 g
Accessory	: "R6 (AA)"-size battery x 1

Provided Accessories .... ☞ pg. 3

Optional Accessories

- **Battery Packs BN-V12U, BN-V22U, BN-V25U**
- **Car Battery Charger BH-V3E**
- **RF Unit RF-V5E**
- **Compact VHS-C Cassettes EC-60/45/30**
- **Active Carrying Bag CB-V7U**
- **Remote Control Unit RM-V700U**

Some accessories are not available in some areas. Please consult your nearest JVC dealer for details on accessories and their availability.

E. & O. E. Design and specifications subject to change without notice.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

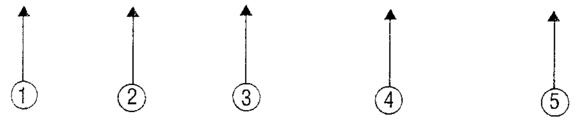
1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSEMBLY	C1	2(S1), 2(L1)	–
②	UPPER CASE	C2	2(S2), (S3), 2(L2), (L3)	<NOTE 1>
③	REAR CASE ASSEMBLY	C3	7(S3), (S4), (L4) JACK COVER/CAP (LITHIUM)	–
④	TOP COVER ASSEMBLY	C4	2(S3), 2(L5), 3(L6), 2(L7)	–



① : Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.
② : Part to be removed or installed.
③ : Fig. No. showing Procedure or Part Location.
C = Cabinet
CA = Camera
D = Deck
④ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S2) = 2 Screws (S2)
⑤ : Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

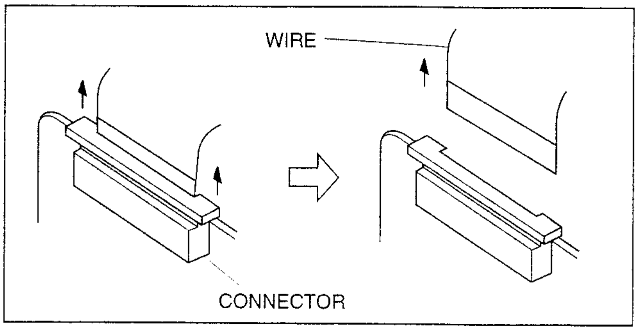


Fig. 1-1-1

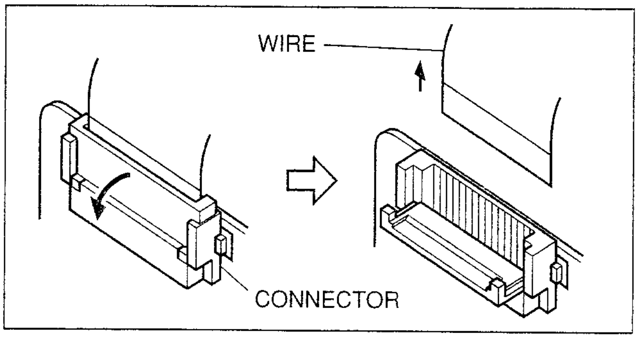


Fig. 1-1-2

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 lists screws by their symbols correspond to those shown in figures of this section "Disassembly".

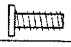
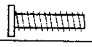
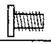
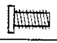
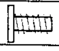
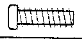
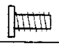
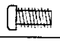
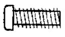
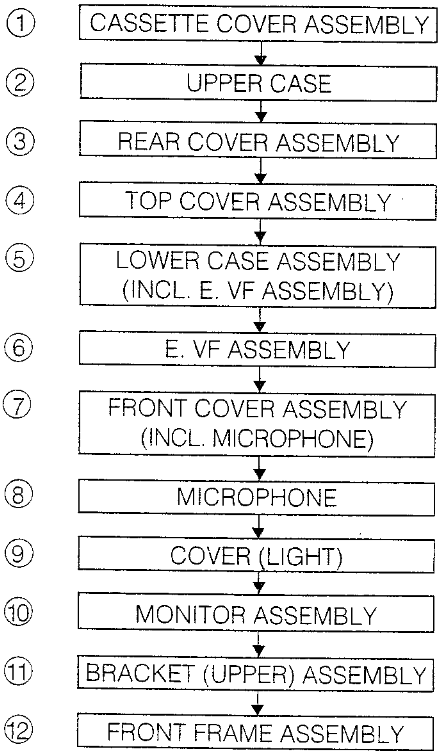
SYMBOL	SHAPE	PARTS NO.
(S1)		QYSLSP2030D
(S2)		QYSLSP2020Z
(S3)		QYSLSF2055D
(S4)		QYSLSF20A0D
(S5)		QYSLSP2040D
(S6)		LY30019-009A
(S7)		SPSH1725M
(S8)		LY30018-009A
(S9)		YQ43762-4
(S10)		SPSN2090Z
(S11)		QYSLSF1750D
(S12)		QYSPSTU1750M
(S13)		LY30019-010A
(S14)		QYSPSTU1725M
(S15)		QYSPSPU1760Z
(S16)		YQ44457-3

Table 1-1-1

1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① CASSETTE COVER ASSEMBLY
② UPPER CASE
③ REAR COVER ASSEMBLY
④ TOP COVER ASSEMBLY
⑤ LOWER CASE ASSEMBLY (INCL. E. VF ASSEMBLY)
⑥ E. VF ASSEMBLY
⑦ FRONT COVER ASSEMBLY (INCL. MICROPHONE)
⑧ MICROPHONE
⑨ COVER (LIGHT)
⑩ MONITOR ASSEMBLY
⑪ BRACKET (UPPER) ASSEMBLY
⑫ FRONT FRAME ASSEMBLY

1.2.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSEMBLY	C1	2(S1), 2(L1)	–
②	UPPER CASE	C2	2(S2), (S3), 2(L2), (L3)	<NOTE 1>
③	REAR COVER ASSEMBLY	C3	7(S3), (S4), (L4) COVER(JACK)/CAP (LITHIUM)	–
④	TOP COVER ASSEMBLY	C4	2(S3),2(L5), 3(L6), 2(L7)	–
⑤	LOWER CASE ASSEMBLY (INCL. E.VF ASSEMBLY)	C5	6(S3), (L8), (L9), (L10), 2(L11) *CONNECTOR Ⓐ GRIP BELT	<NOTE 2> <NOTE 3>
⑥	E. VF ASSEMBLY	C6	(S3), 2(L12)	<NOTE 4>
⑦	FRONT COVER ASSEMBLY (INCL. MIC)	C7	2(S3), (L13), (L14) *CONNECTOR Ⓑ 0 RING	<NOTE 2> <NOTE 5>
⑧	MICROPHONE	C7	(S3)	–
⑨	COVER (LIGHT)	C7	2(L15)	–
⑩	MONITOR ASSEMBLY	C8	*CONNECTOR Ⓒ 5(S1), 2(L16)	<NOTE 2>
		C9	6(S5), 2(L17)	<NOTE 6>
		C10	3(S1), 4(S3), (S6),2(L18) 2(L19), 2(L20) *CONNECTOR Ⓓ,Ⓔ, Ⓕ,Ⓖ,Ⓗ	<NOTE 2> <NOTE 7> <NOTE 8>
		C11	4(S1), 2(L21)	<NOTE 9> <NOTE 10>
⑪	BRACKET (UPPER) ASSEMBLY	C12	(S3), (L22)	–
⑫	FRONT FRAME ASSENBLY	C12	2(S7)	–

List of Abbreviations:
2(S1)=2 Screw (S1)
2(L1)=2 Locking Tabs (L1)

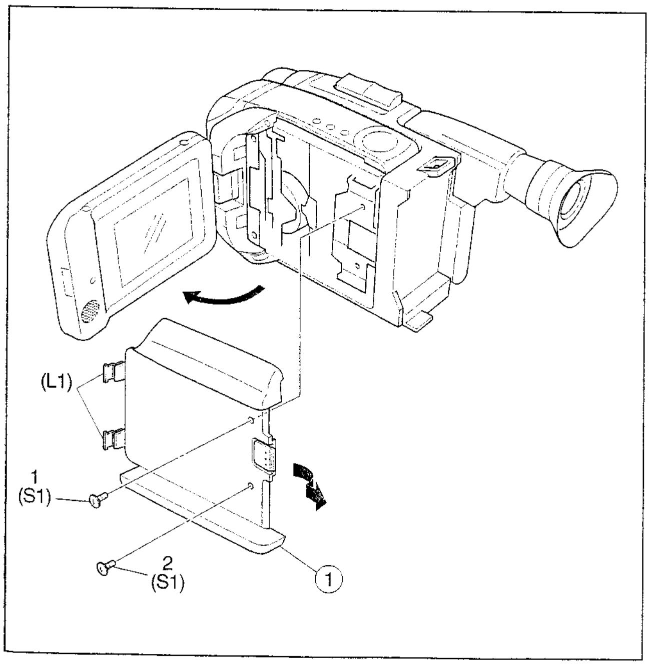


Fig. C1

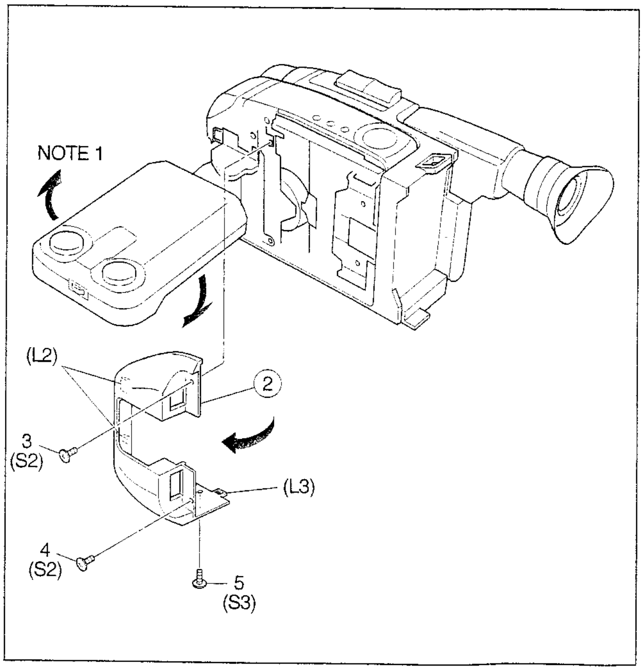

NOTE 1
(L2)
②
3
(S2)
(L3)
4
(S2)
5
(S3)

Fig. C2

1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

① CASSETTE COVER ASSEMBLY
↓
② UPPER CASE
↓
③ REAR COVER ASSEMBLY
↓
④ TOP COVER ASSEMBLY
↓
⑤ LOWER CASE ASSEMBLY (INCL. E. VF ASSEMBLY)
↓
⑥ E. VF ASSEMBLY
↓
⑦ FRONT COVER ASSEMBLY (INCL. MICROPHONE)
↓
⑧ MICROPHONE
↓
⑨ COVER (LIGHT)
↓
⑩ MONITOR ASSEMBLY
↓
⑪ BRACKET (UPPER) ASSEMBLY
↓
⑫ FRONT FRAME ASSEMBLY

1.2.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSEMBLY	C1	2(S1), 2(L1)	–
②	UPPER CASE	C2	2(S2), (S3), 2(L2), (L3)	<NOTE 1>
③	REAR COVER ASSEMBLY	C3	7(S3), (S4), (L4) COVER(JACK)/CAP (LITHIUM)	–
④	TOP COVER ASSEMBLY	C4	2(S3),2(L5), 3(L6), 2(L7)	–
⑤	LOWER CASE ASSEMBLY (INCL. E.VF ASSEMBLY)	C5	6(S3), (L8), (L9), (L10), 2(L11) *CONNECTOR Ⓐ GRIP BELT	<NOTE 2> <NOTE 3>
⑥	E. VF ASSEMBLY	C6	(S3), 2(L12)	<NOTE 4>
⑦	FRONT COVER ASSEMBLY (INCL. MIC)	C7	2(S3), (L13), (L14) *CONNECTOR Ⓑ O RING	<NOTE 2> <NOTE 5>
⑧	MICROPHONE	C7	(S3)	–
⑨	COVER (LIGHT)	C7	2(L15)	–
⑩	MONITOR ASSEMBLY	C8	*CONNECTOR Ⓒ 5(S1), 2(L16)	<NOTE 2>
		C9	6(S5), 2(L17)	<NOTE 6>
		C10	3(S1), 4(S3), (S6),2(L18) 2(L19), 2(L20) *CONNECTOR Ⓓ,Ⓔ, Ⓕ,Ⓖ,Ⓗ	<NOTE 2> <NOTE 7> <NOTE 8>
		C11	4(S1), 2(L21)	<NOTE 9> <NOTE 10>
⑪	BRACKET (UPPER) ASSEMBLY	C12	(S3), (L22)	–
⑫	FRONT FRAME ASSENBLY	C12	2(S7)	–

List of Abbreviations:
2(S1)=2 Screw (S1)
2(L1)=2 Locking Tabs (L1)

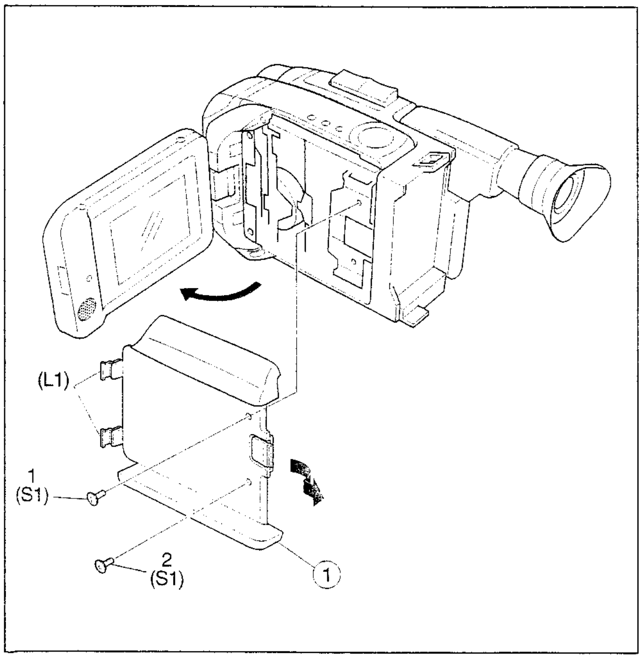


Fig. C1

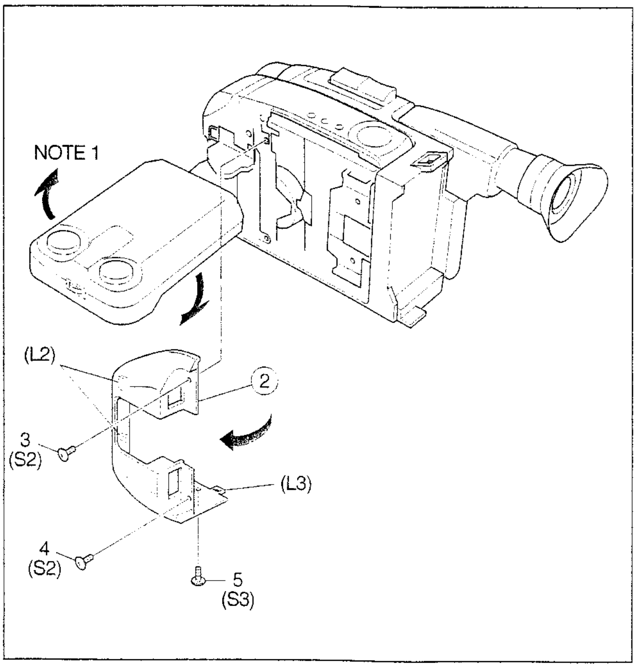


Fig. C2

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

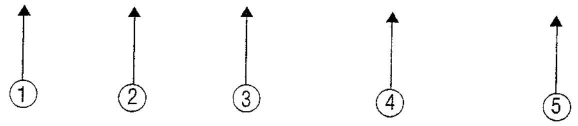
1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSEMBLY	C1	2(S1), 2(L1)	–
②	UPPER CASE	C2	2(S2), (S3), 2(L2), (L3)	<NOTE 1>
③	REAR CASE ASSEMBLY	C3	7(S3), (S4), (L4) JACK COVER/CAP (LITHIUM)	–
④	TOP COVER ASSEMBLY	C4	2(S3), 2(L5), 3(L6), 2(L7)	–



① : Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Part to be removed or installed.

③ : Fig. No. showing Procedure or Part Location.

C = Cabinet
CA = Camera
D = Deck

④ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S2) = 2 Screws (S2)

⑤ : Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

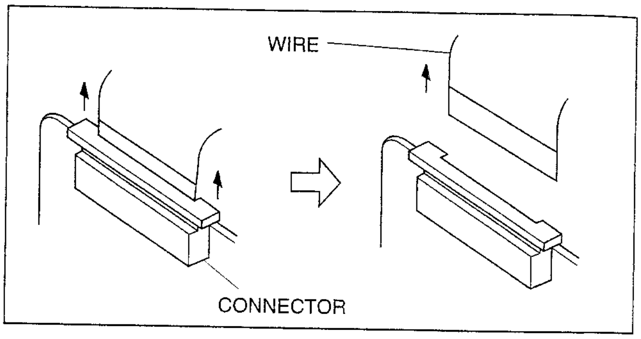


Fig. 1-1-1

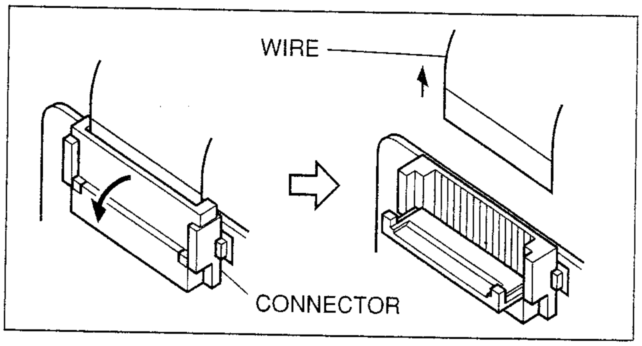


Fig. 1-1-2

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 lists screws by their symbols correspond to those shown in figures of this section "Disassembly".

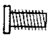
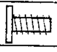
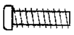
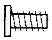
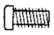
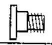
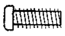
SYMBOL	SHAPE	PARTS NO.
(S1)		QYSLSP2030D
(S2)		QYSLSP2020Z
(S3)		QYSLSF2055D
(S4)		QYSLSF20A0D
(S5)		QYSLSP2040D
(S6)		LY30019-009A
(S7)		SPSH1725M
(S8)		LY30018-009A
(S9)		YQ43762-4
(S10)		SPSN2090Z
(S11)		QYSLSF1750D
(S12)		QYSPSTU1750M
(S13)		LY30019-010A
(S14)		QYSPSTU1725M
(S15)		QYSPSPU1760Z
(S16)		YQ44457-3

Table 1-1-1

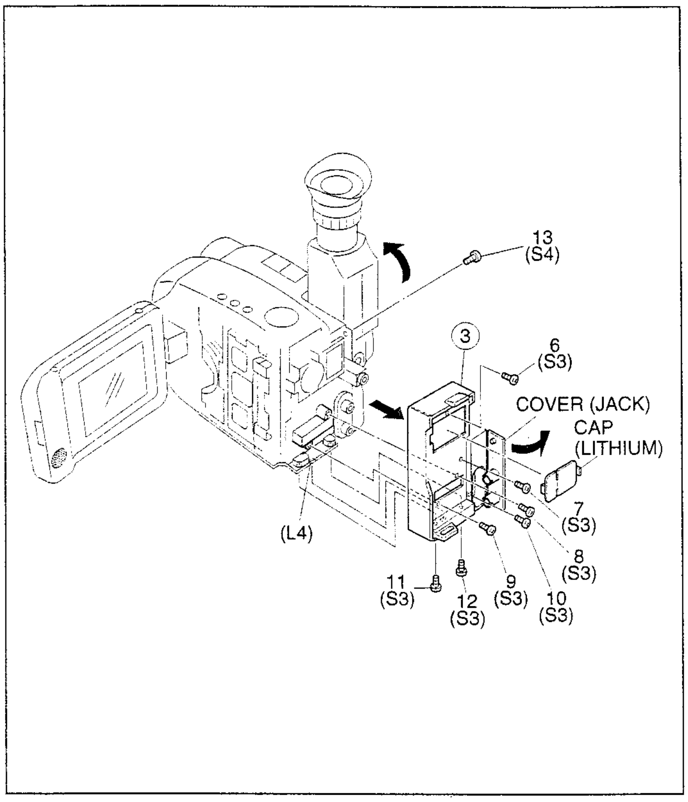

13
(S4)
3
6
(S3)
COVER (JACK)
CAP
(LITHIUM)
7
(S3)
8
(S3)
(L4)
11
(S3)
12
(S3)
9
(S3)
10
(S3)

Fig. C3

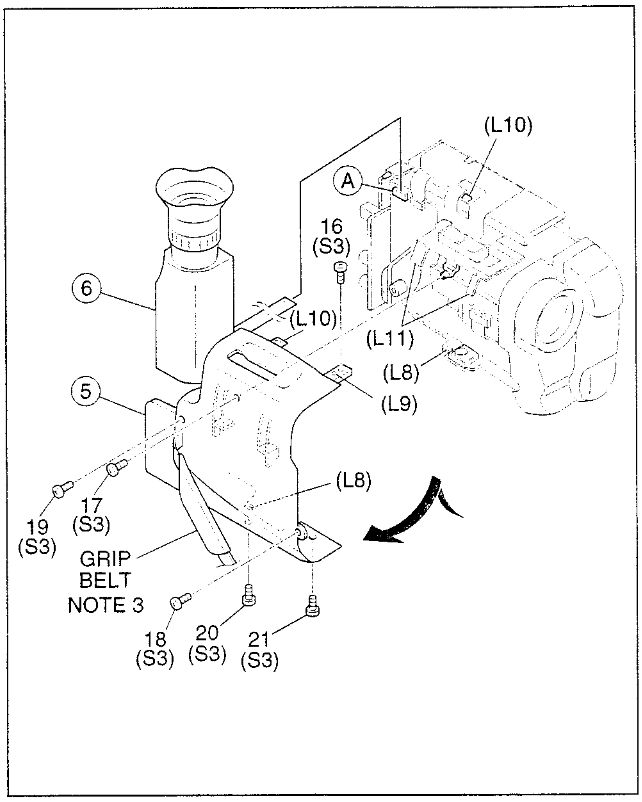

(L10)
A
16
(S3)
6
(L10)
(L11)
(L8)
5
(L9)
(L8)
17
(S3)
19
(S3)
GRIP
BELT
NOTE 3
18
(S3)
20
(S3)
21
(S3)

Fig. C5

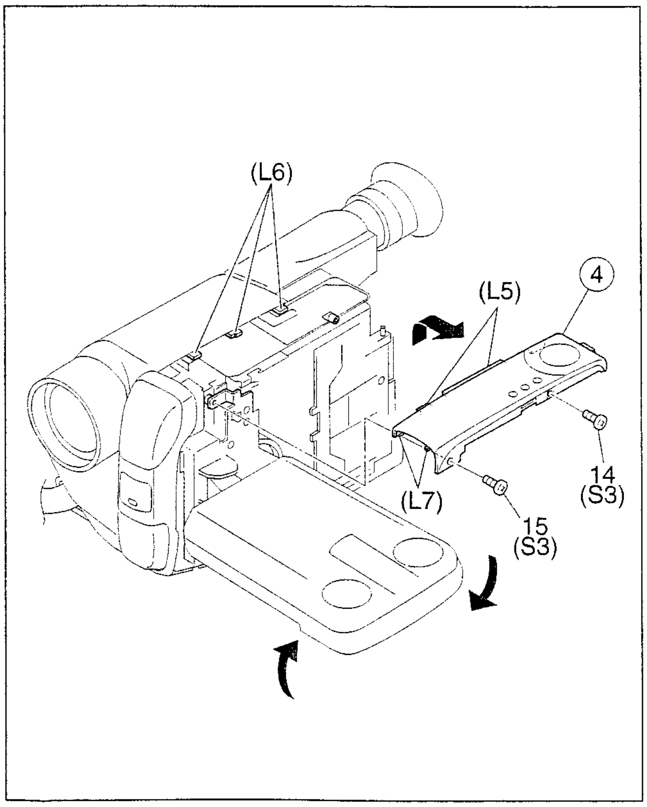

(L6)
(L5)
4
14
(S3)
(L7)
15
(S3)

Fig. C4

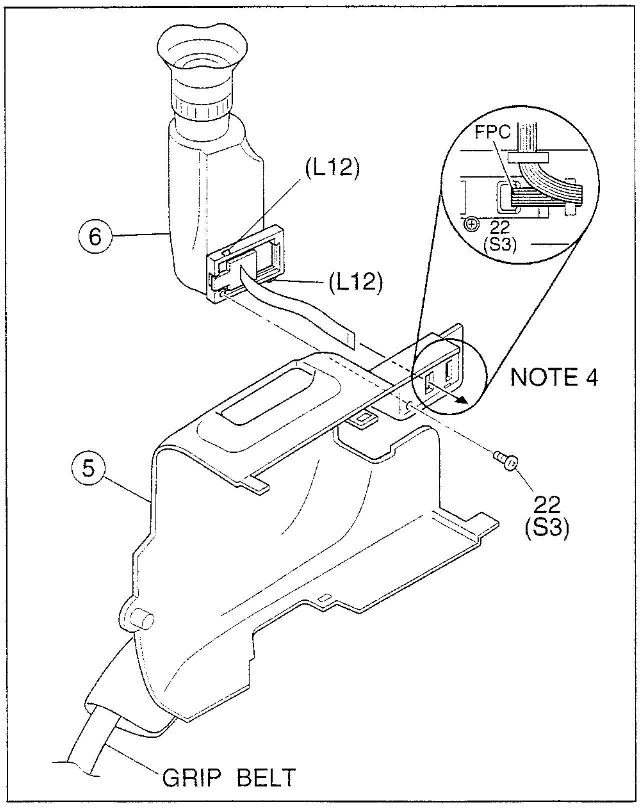

(L12)
FPC
6
(L12)
22
(S3)
NOTE 4
5
22
(S3)
GRIP BELT

Fig. C6

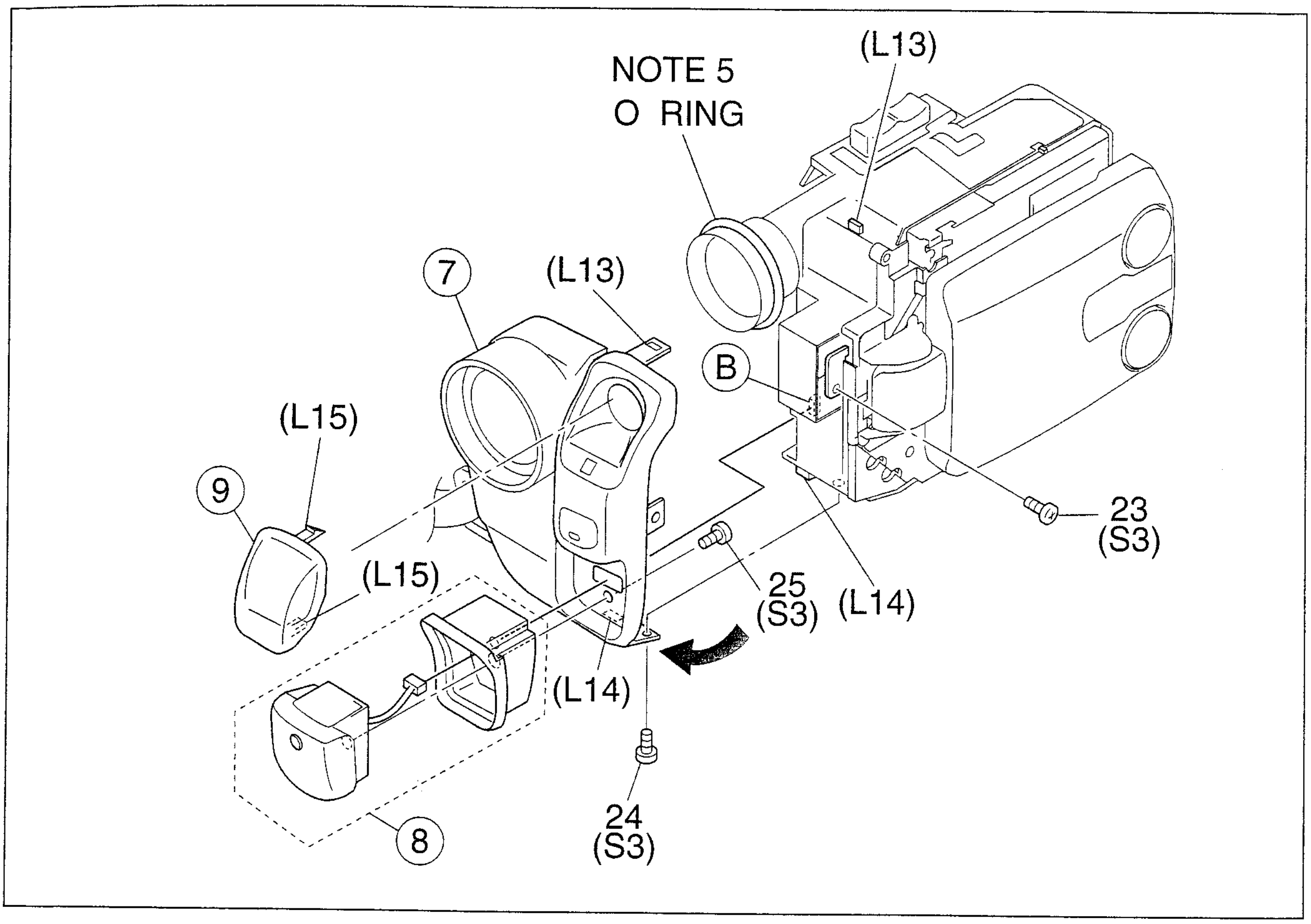

NOTE 5
O RING
(L13)
7
(L13)
B
(L15)
9
(L15)
23
(S3)
25
(S3)
(L14)
(L14)
24
(S3)
8

Fig. C7

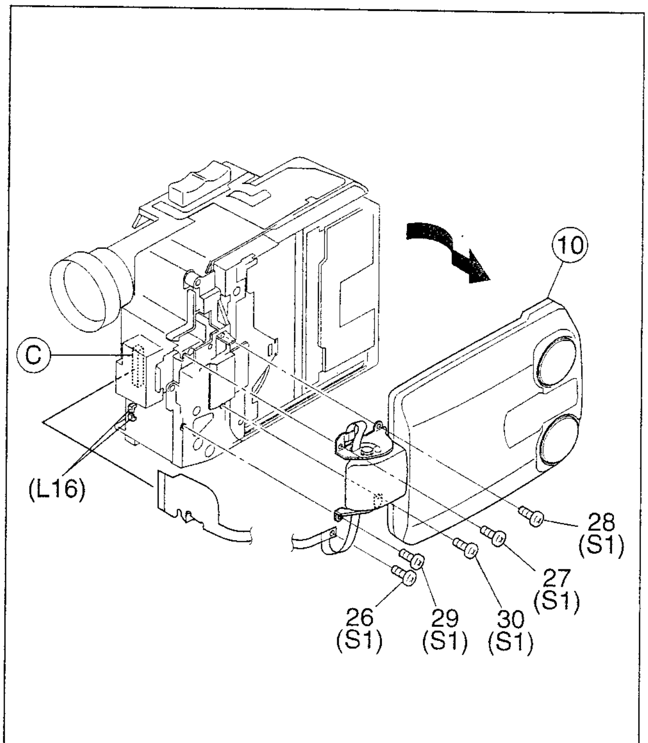

10
C
(L16)
28
(S1)
27
(S1)
26
(S1)
29
(S1)
30
(S1)

Fig. C8

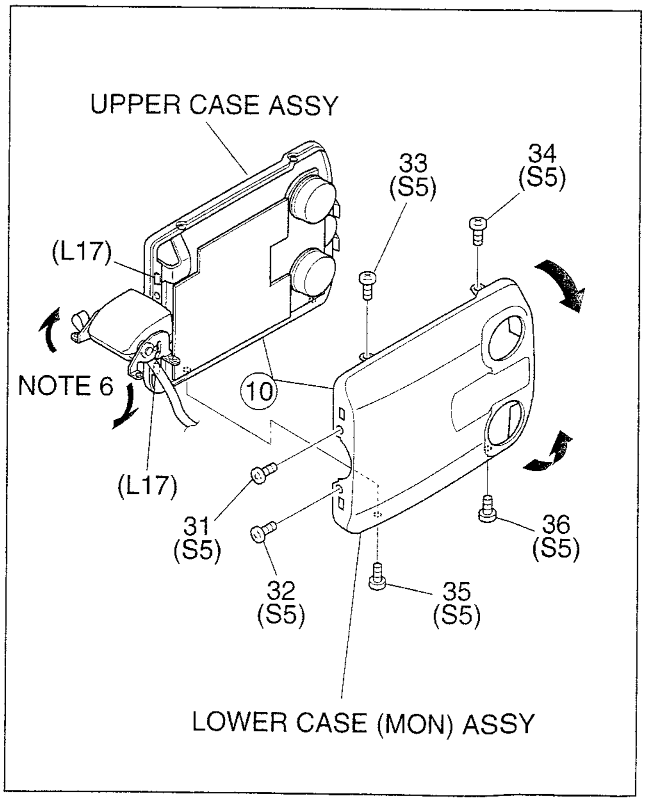

UPPER CASE ASSY
33
(S5)
34
(S5)
(L17)
NOTE 6
10
(L17)
31
(S5)
32
(S5)
36
(S5)
35
(S5)
LOWER CASE (MON) ASSY

Fig. C9

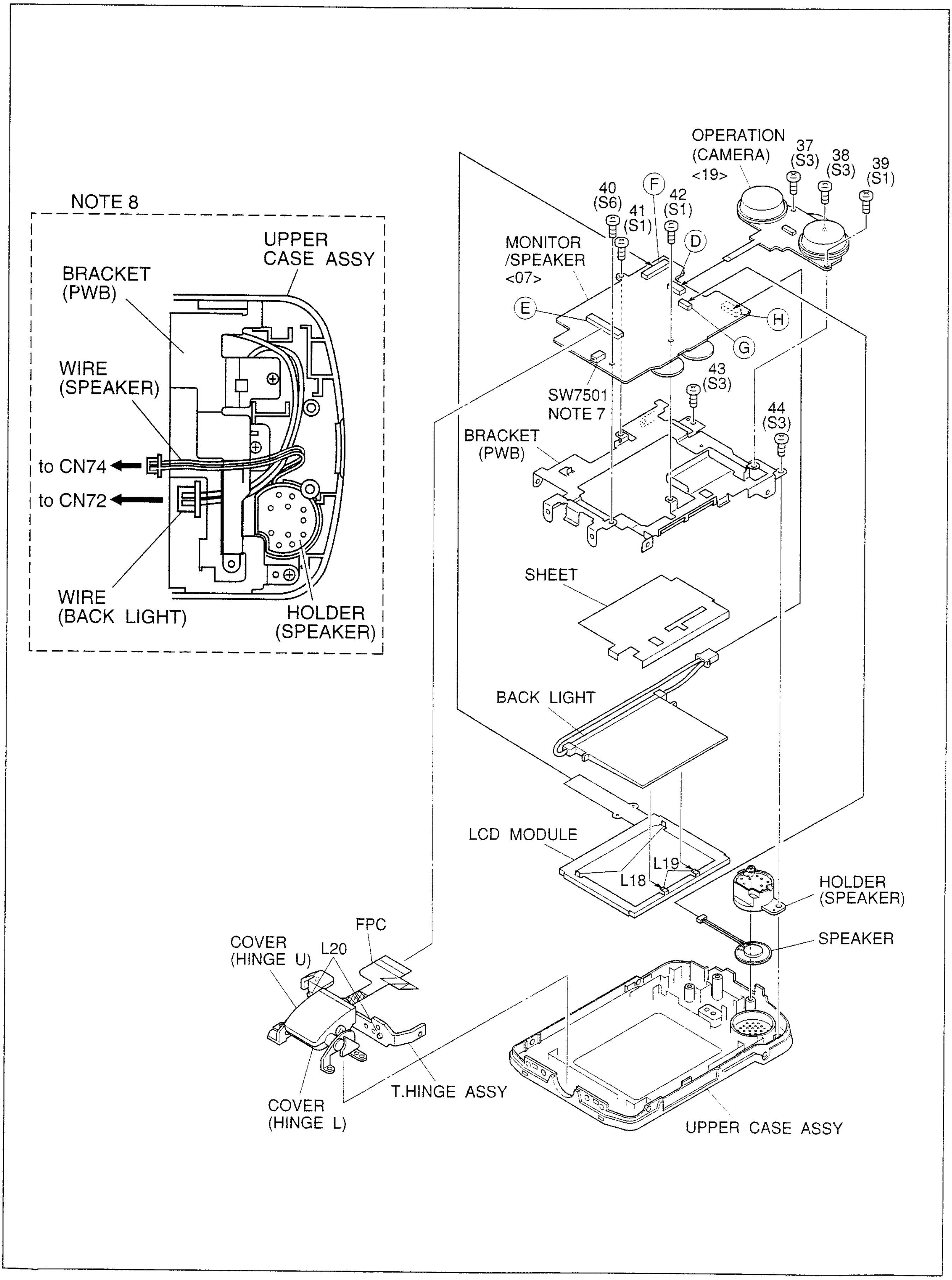

NOTE 8
UPPER CASE ASSY
BRACKET (PWB)
WIRE (SPEAKER)
to CN74
to CN72
WIRE (BACK LIGHT)
HOLDER (SPEAKER)
OPERATION (CAMERA) <19>
37 (S3)
38 (S3)
39 (S1)
40 (S6)
41 (S1)
42 (S1)
F
D
MONITOR /SPEAKER <07>
E
H
G
43 (S3)
44 (S3)
SW7501 NOTE 7
BRACKET (PWB)
SHEET
BACK LIGHT
LCD MODULE
L19
L18
HOLDER (SPEAKER)
SPEAKER
FPC
COVER (HINGE U)
L20
T.HINGE ASSY
COVER (HINGE L)
UPPER CASE ASSY

Fig. C10

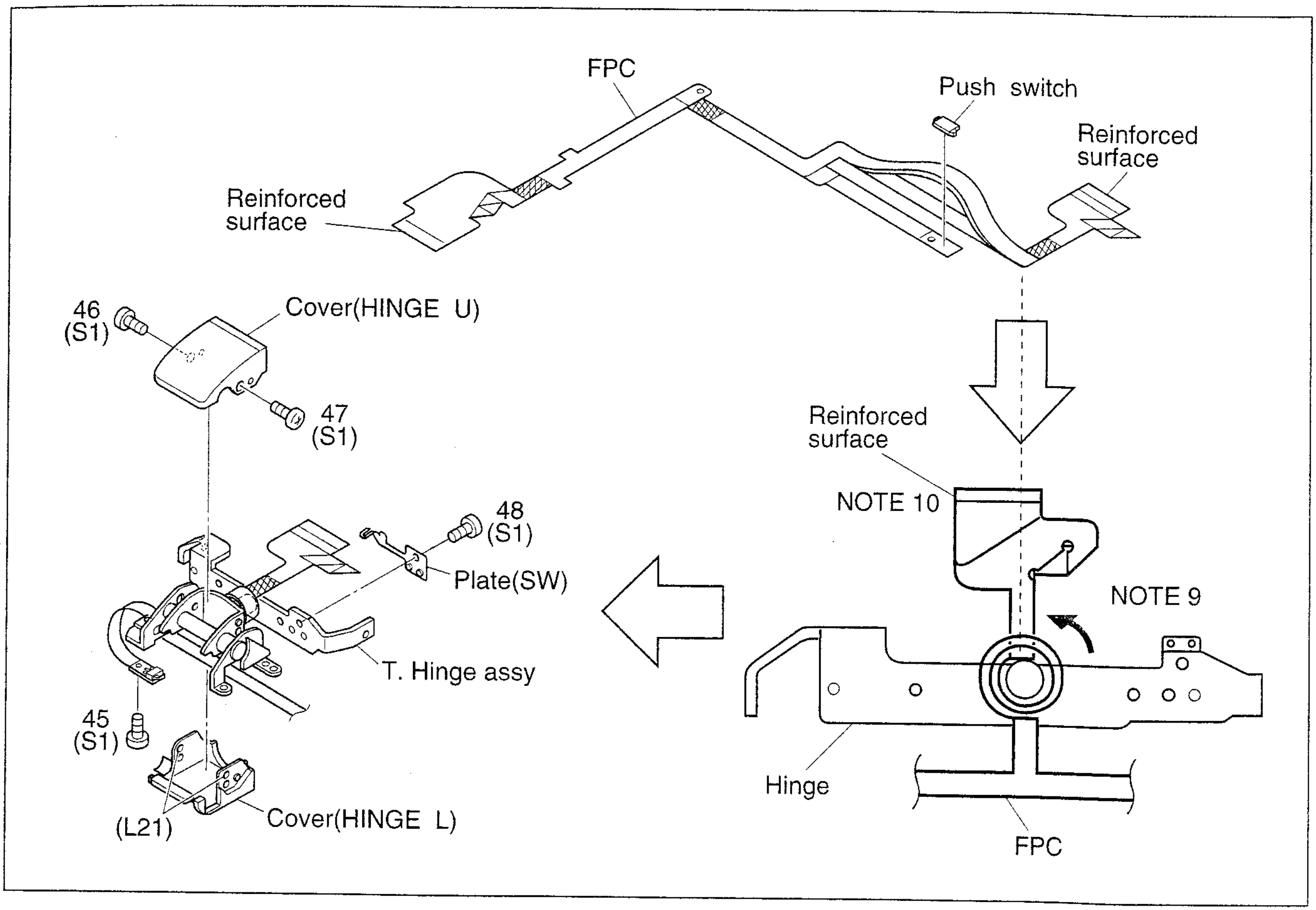

FPC
Push switch
Reinforced surface
Reinforced surface
46 (S1)
Cover(HINGE U)
47 (S1)
Reinforced surface
NOTE 10
48 (S1)
Plate(SW)
NOTE 9
T. Hinge assy
45 (S1)
Hinge
(L21)
Cover(HINGE L)
FPC

Fig. C11

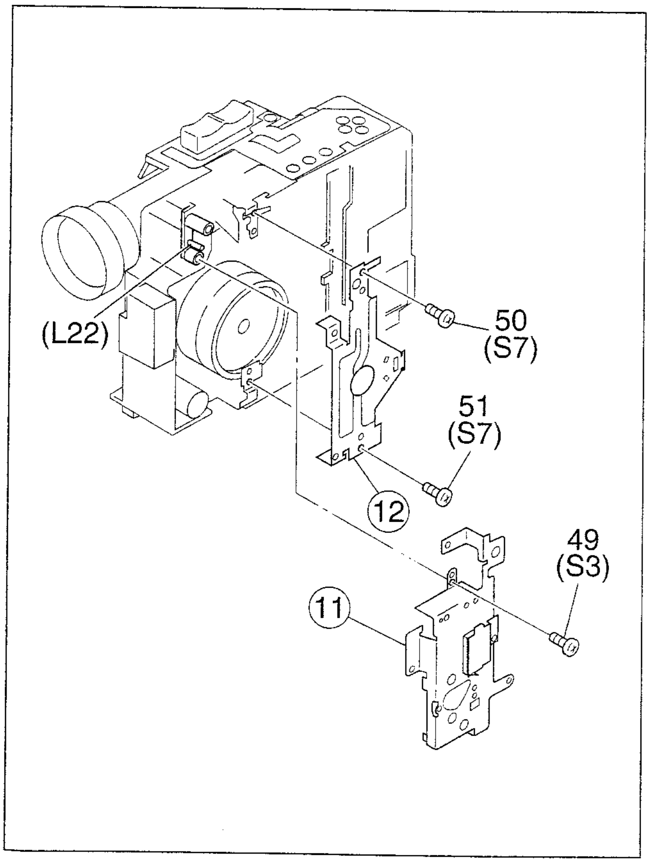

(L22)
50 (S7)
51 (S7)
12
49 (S3)
11

Fig. C12

Reference Notes:
<NOTE 1>
Turn the monitor assembly at a angle of 90° as shown in the figure.

<NOTE 2>
Destination of connectors
Note: *Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Con-nector	No. of Pins	Connector		
Ⓐ	10	EVF	⇔	MAIN1 CN12
Ⓑ	5	MIC	↔	SENSOR CN8
Ⓒ	38	MONITOR (T.HINGE)	⇔	MAIN1 CN16
Ⓓ	6	MONITOR CN75	⇔	OPE (CAMERA)
Ⓔ	35	MONITOR CN71	⇔	T. HINGE
Ⓕ	24	MONITOR CN73	⇔	LCD MODULE
Ⓖ	2	MONITOR CN74	↔	SPEAKER
Ⓗ	2	MONITOR CN72	↔	BACK LIGHT

<NOTE 3>
Be sure to remove the grip belt from the hook on the front cover assembly beforehand.

<NOTE 4>
When removing the E. VF assembly, first disengage the FPC from the hook to make it loose. At that time, be careful not to break the wiring of the FPC.

<NOTE 5>
When removing the front cover assembly, pay careful attention to the O-ring not to lose it.
If the O-ring comes off, set it in the groove outside the optical lens.

<NOTE 6>
For removing the cover, first turn the hinge at an angle of 90° as shown in the figure and then remove the cover.

<NOTE 7>
When screws are removed in the state of Fig. C9, there is a fear that the switch may be damaged by the switch plate because the board is shaky. In such the condition, pay heed to the switch and the board.

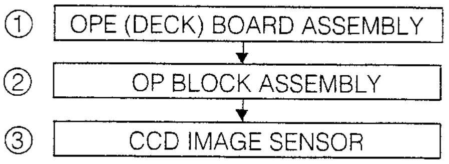
<NOTE 8>
Arrange wires of the back light and speaker so that all of them are passed under the board bracket.

<NOTE 9, 10>
(1) The FPC assembly should be winded around the hinge assembly by two and half turns so that the wire to be connected to the monitor board assembly is positioned inside.
(2) The upper and lower hinge covers should be mounted so carefully that any wire is not caught into either of the covers.

1.3 DISASSEMBLY/ASSEMBLY OF CAMERA PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the CAMERA parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.



*Refer to section 1.4

1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	OPE (DECK) BOARD ASSEMBLY	CA1	*CONNECTORⒿ 3(S3), 2(L1), 2(L2), (L3)	<NOTE 1>
②	OP BLOCK ASSEMBLY	CA1	*CONNECTORⓀ Ⓛ 2(S8), 2(S9)	<NOTE 1> <NOTE 2>

List of Abbreviations:
3(S2) = 3 Screws (S2)
(L3) = 1 Locking Tab (L3)

Reference Notes:
<NOTE 1>
Destination of connectors
Note: *Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector
Ⓙ	12	MAIN1 CN13 ⇔ OPERATION (DECK)
Ⓚ	22	OP BLOCK ⇔ MAIN1 CN15
Ⓛ	14	OP BLOCK ⬌ CCD CN5201

<NOTE 2>
Move the CCD board in the direction of the rear side. At that time, pay careful attention to pins (connectorⓁ) of the CCD image sensor so as not to damage them.

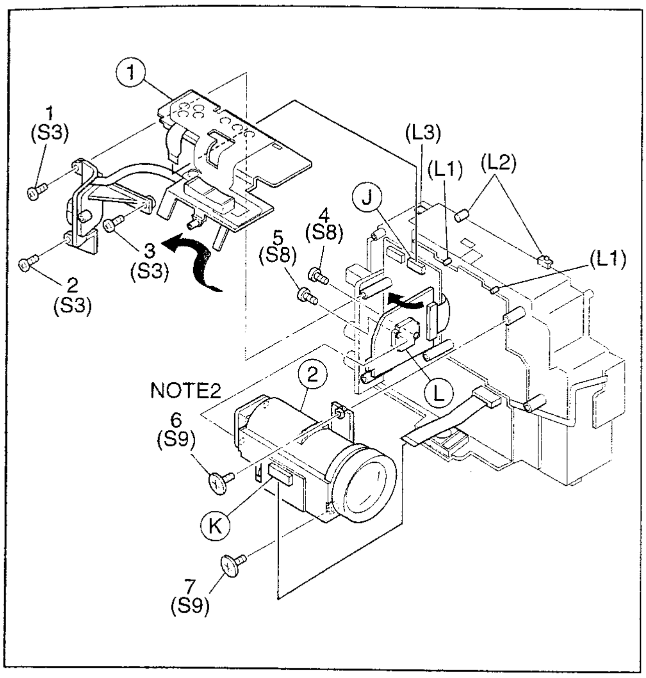


Fig. CA1

1.4 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.4.1 Removal of CCD image sensor

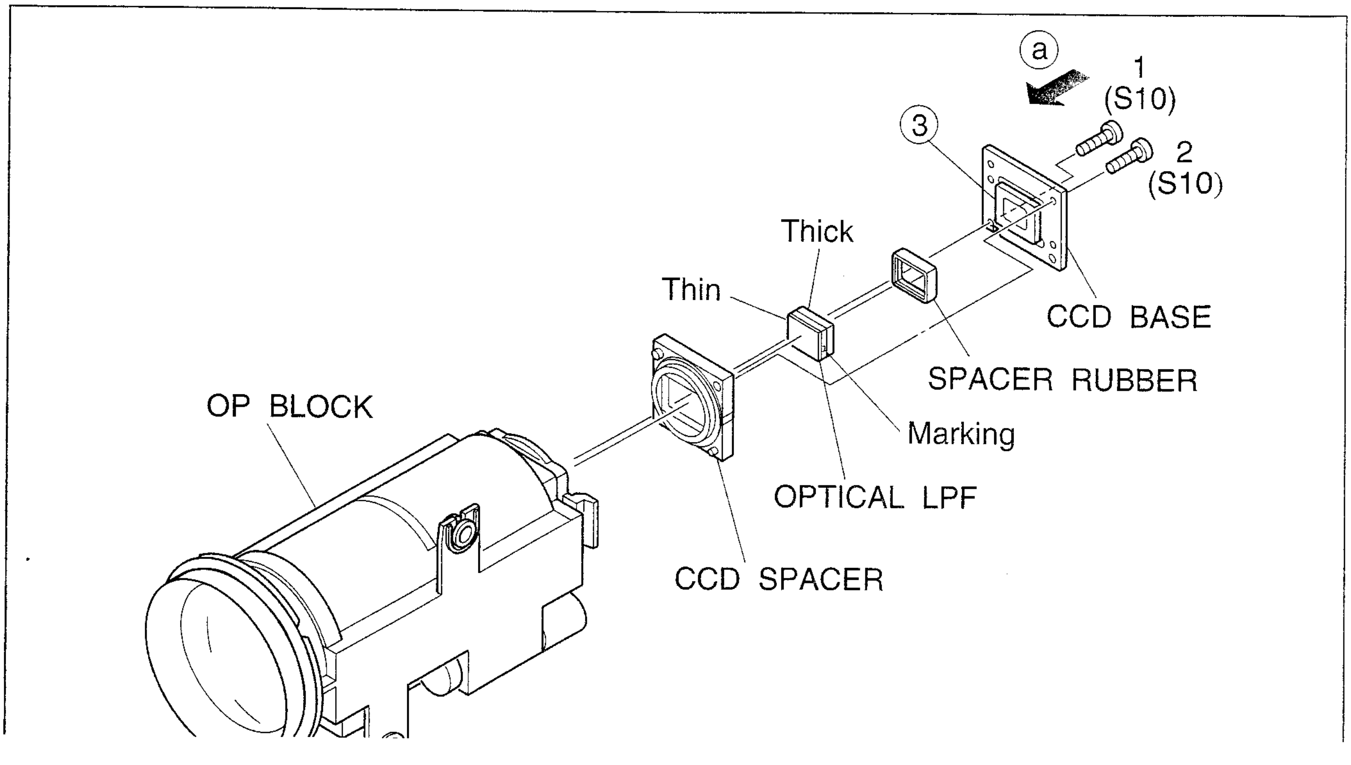
1. Remove two screws (1, 2) securing the CCD base, and disassemble the CCD spacer, the optical LPF, spacer rubber.

1.4.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the spacer rubber, optical LPF, CCD spacer on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-4-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ.
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the left and bottom viewed as indicated by the arrow ⓐ.

2. Fix the CCD base to OP block with the two screws (1, 2). At that time, be careful of the orientation.
3. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.



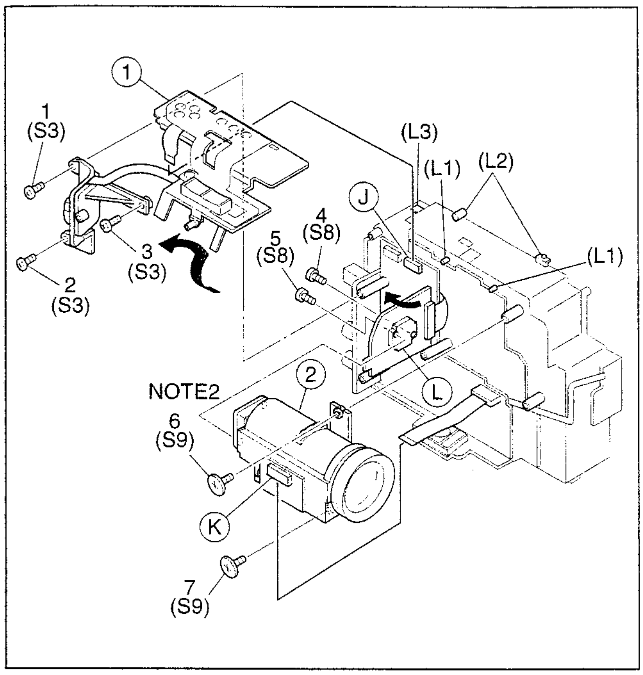


Fig. CA1

1.4 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.4.1 Removal of CCD image sensor

1. Remove two screws (1, 2) securing the CCD base, and disassemble the CCD spacer, the optical LPF, spacer rubber.

1.4.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the spacer rubber, optical LPF, CCD spacer on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-4-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ.
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the left and bottom viewed as indicated by the arrow ⓐ.

2. Fix the CCD base to OP block with the two screws (1, 2). At that time, be careful of the orientation.
3. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

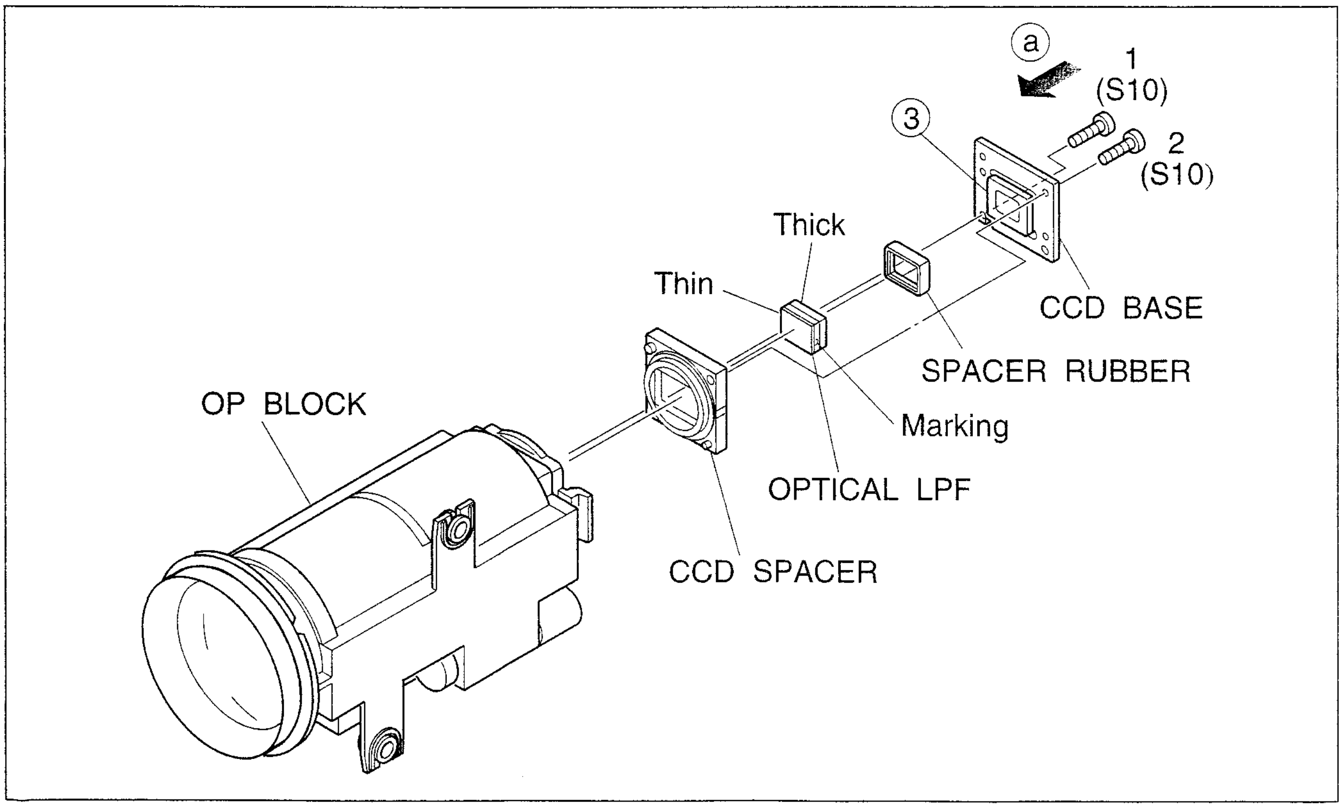
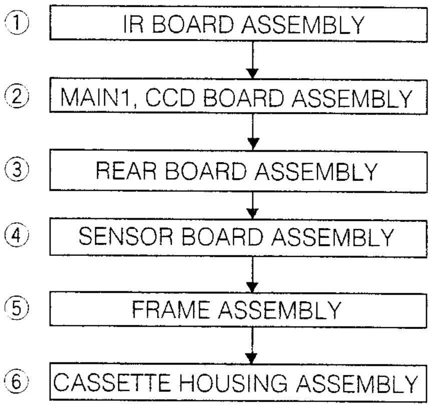


Fig. 1-4-1

1.5 DISASSEMBLY/ASSEMBLY OF DECK PARTS

1.5.1 Disassembly flow chart

This flowchart indicates the disassembly step for the DECK parts and board assembly in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.



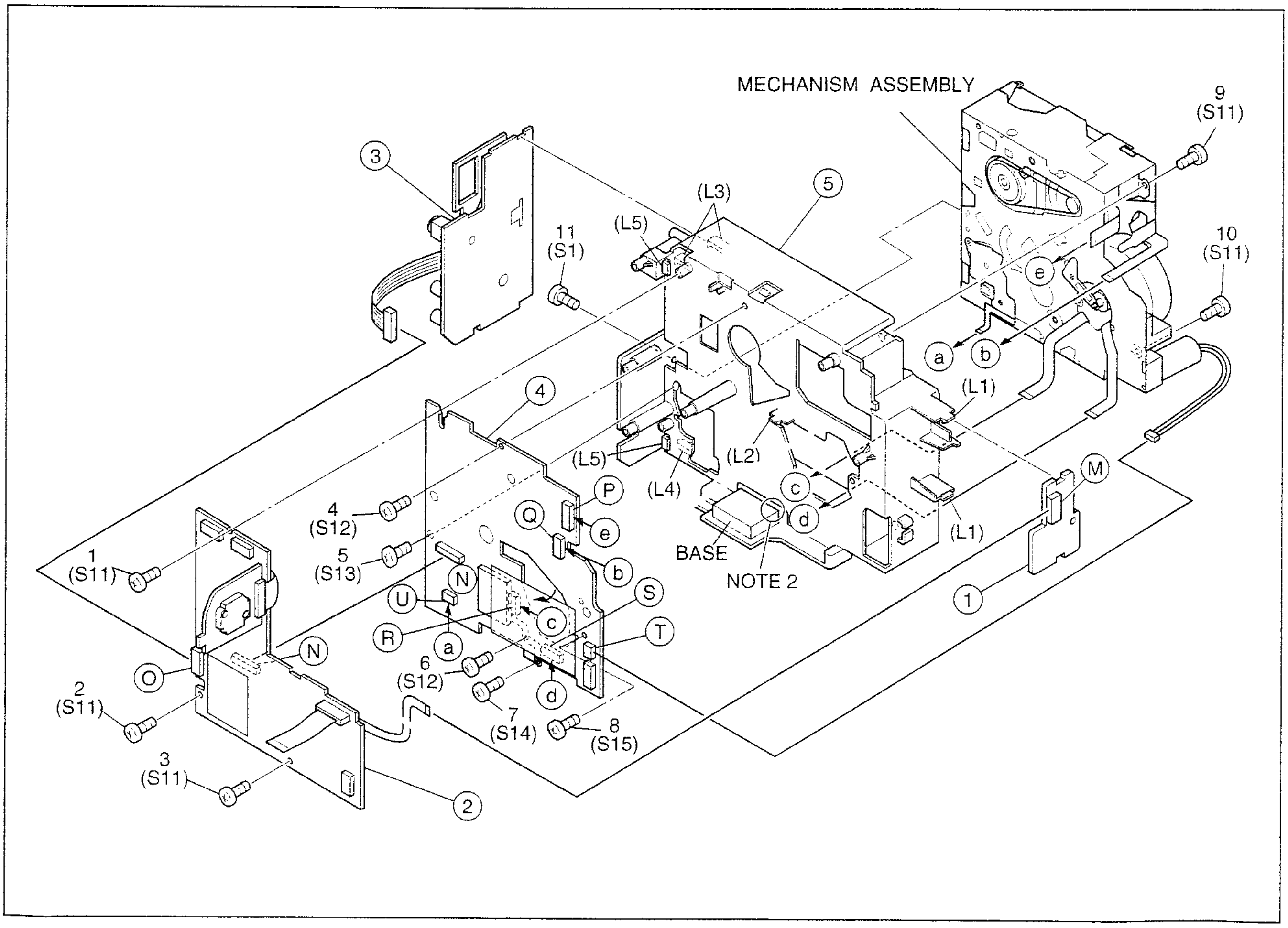
① IR BOARD ASSEMBLY
② MAIN1, CCD BOARD ASSEMBLY
③ REAR BOARD ASSEMBLY
④ SENSOR BOARD ASSEMBLY
⑤ FRAME ASSEMBLY
⑥ CASSETTE HOUSING ASSEMBLY

1.5.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	IR BOARD ASSEMBLY	D1	2(L1) *CONNECTOR Ⓜ	<NOTE 1>
②	MAIN1, CCD BOARD ASSEMBLY	D1	3(S11), (L2) *CONNECTOR Ⓝ, Ⓞ	<NOTE 1>
③	REAR BOARD ASSEMBLY	D1	2(L3), (L4)	–
④	SENSOR BOARD ASSEMBLY	D1	2(S12), (S13), (S14), (S15), 2(L5) *CONNECTOR Ⓟ, Ⓠ, Ⓡ Ⓢ, Ⓣ, Ⓤ	<NOTE 1> <NOTE 2>
⑤	FRAME ASSEMBLY	D1	(S1), 2(S11)	–
⑥	CASSETTE HOUSING ASSEMBLY	D2	4(S16)	–

List of Abbreviations:

3(S11) = 3 Screws (S11)
2(L3) = 2 Locking Tabs (L3)



MECHANISM ASSEMBLY
9 (S11)
10 (S11)
③
⑤
(L3)
11 (S1)
(L5)
ⓔ
ⓐ
ⓑ
(L1)
④
(L5)
(L4)
(L2)
Ⓟ
Ⓜ
ⓒ
ⓓ
(L1)
Ⓠ
ⓔ
4 (S12)
5 (S13)
BASE
NOTE 2
1 (S11)
Ⓝ
ⓑ
Ⓢ
Ⓤ
ⓒ
①
Ⓡ
ⓐ
Ⓣ
Ⓝ
Ⓞ
6 (S12)
2 (S11)
ⓓ
7 (S14)
8 (S15)
3 (S11)
②

Fig. D1

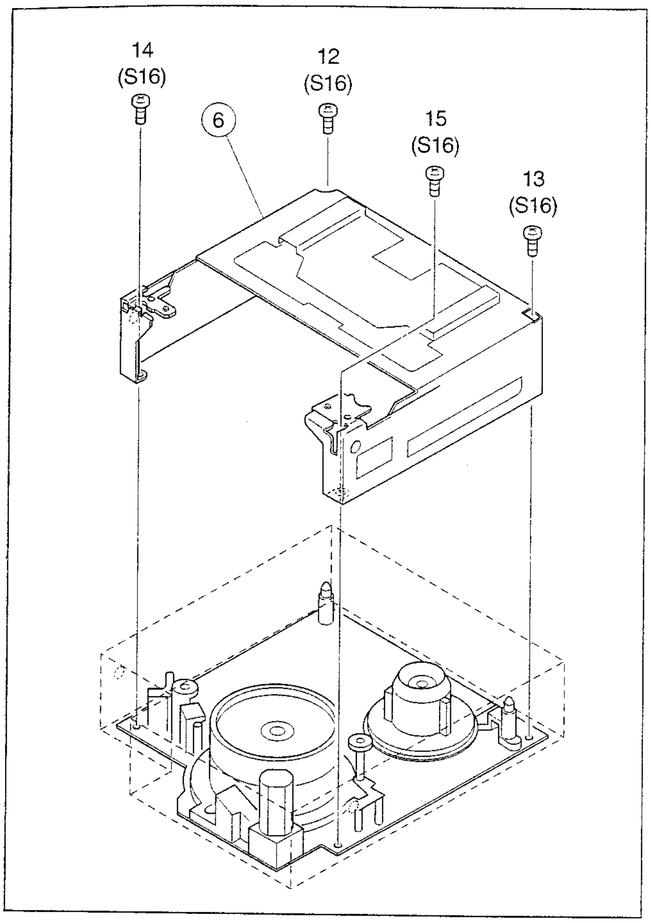


Fig. D2

Reference Notes:
<NOTE 1>
Destination of connectors

Note: *Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Connector	No. of Pins	Connector		
Ⓜ	7	MAIN1 CN23	⇔	IR CN1
Ⓝ	60	MAIN1 CN21	⬌	SENSOR CN6
Ⓞ	13	MAIN1 CN11	↔	REAR CN31
Ⓟ	18	SENSOR CN3	⇔	CAPSTAN MOTOR
Ⓠ	11	SENSOR CN7	⇔	A/C HEAD
Ⓡ	11	SENSOR CN5	⇔	VIDEO/FLY.E HEAD
Ⓢ	10	SENSOR CN1	⇔	DRUM MOTOR
Ⓣ	2	SENSOR CN4	↔	LOADING MOTOR
Ⓤ	6	SENSOR CN2	⇔	ROTARY ENCODER

<NOTE 2>
The SENSOR board is set between the frame assembly and the base.
For removing the SENSOR board, remove the base in advance, or remove L5 first and then remove the board while getting it free from hindrance of other parts.

1.6 HOW TO TAKE OUT CASSETTE TAPE

In the event that the set enters the emergency mode as it is loaded with a cassette tape and the cassette tape cannot be ejected with the EJECT button, manually, take it out of the set according to the following procedure.

Note: *If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.*

1. Disconnect the set from the power source.
2. Remove the cassette cover assembly, upper case, rear cover assembly and top cover assembly. (See Fig. C1, C2, C3 and C4 page 1-1, 2 and 3)
3. Connect a jumper wire to each pole of the loading motor as shown by the magnified view ⓑ (Fig. 1-6-1)
4. While holding down the cassette housing by hand, connect the jumper wires to a battery to run the mechanism to the EJECT position four unloading. If this unloading operation is performed as the cassette housing is not held down by hand, the front lid of the cassette may damage the tape when it is ejected.
5. For taking in the slack of the tape, run the mechanism to the EJECT position as the front lid of the cassette is left open, and turn the take-up reel in the forward direction to wind up the tape. After confirming that the tape has completely been wound up and the supply reel is idling, take the cassette tape out of the cassette housing.

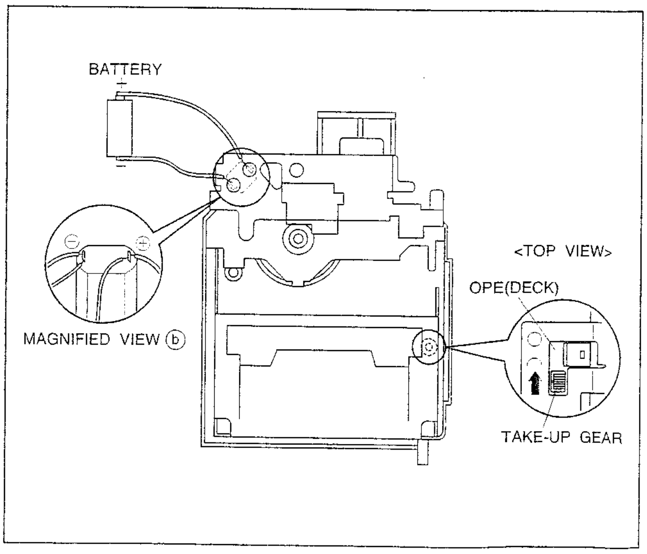


Fig. 1-6-1

1.7 EXTENSION CABLE CONNECTION

Connector	Pins	Connection			Parts Number
①	60	MAIN1 CN21	↔	SENSOR CN6	YTU94112A-60
②	22	MAIN1 CN15	↔	OP BLOCK	YTU94074-22 YTU94077-22
③	7	MAIN1 CN23	↔	IR CN1	YTU94074-7 YTU94077-7
④	10	MAIN1 CN12	↔	E. VF	YTU94074-10 YTU94077-10
⑤	12	MAIN1 CN13	↔	OPERATION (DECK)	YTU94074-12 YTU94077-12
⑥	5	SENSOR CN8	↔	MICROPHONE	YUJ40095A-5

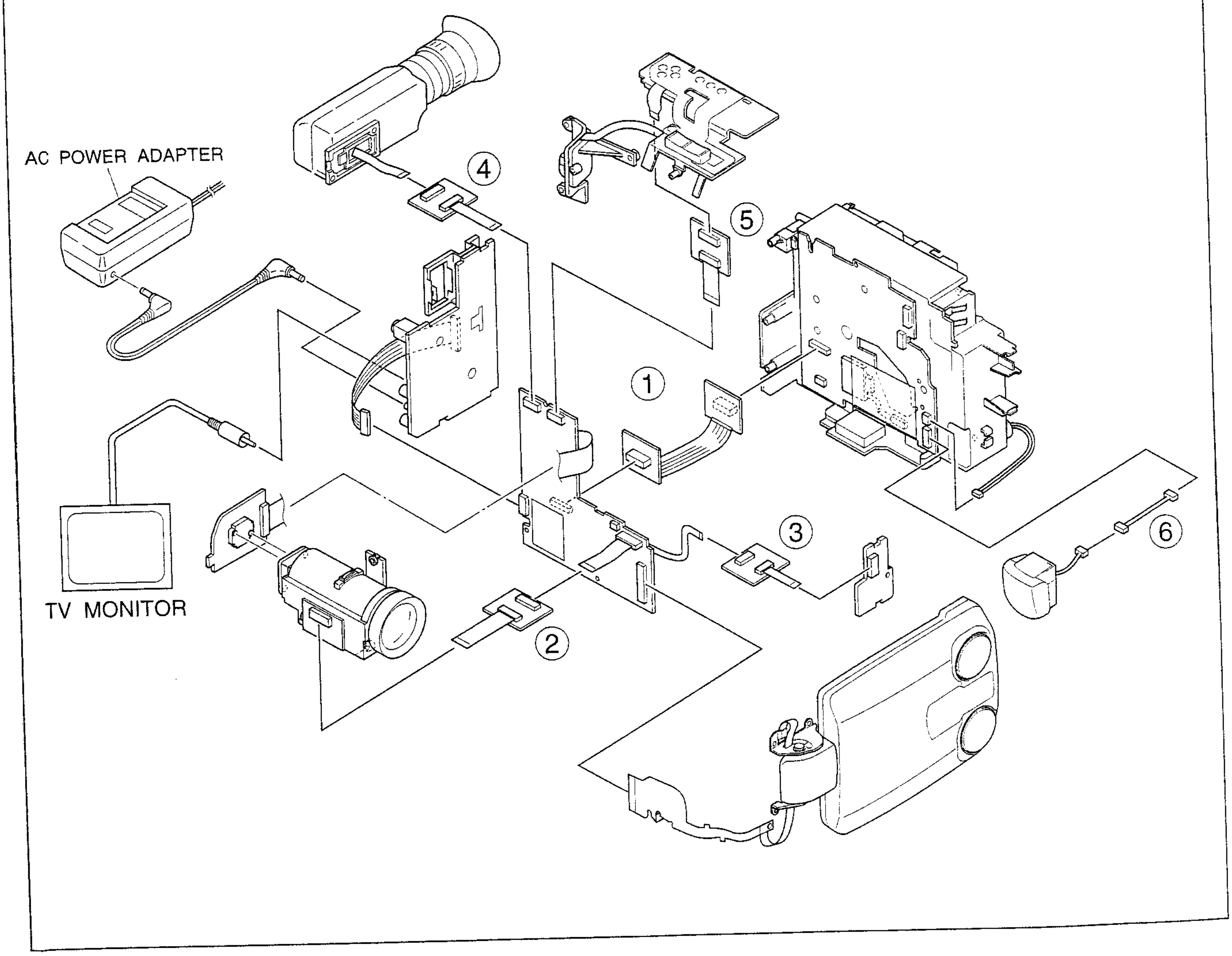


Fig. 1-7-1

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

①: Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

②: Part to be removed or installed.

③: Location of part.
T = Top
B = Bottom

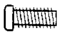
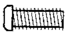
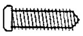
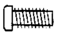
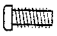
④: Fig. No. showing Procedure or Part Location.
M = Mechanism

⑤: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

⑥: Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Main screws and washers to deal with disassembly/assembly

Table 2-1-1 lists screws and washers by their symbols which correspond to those shown in figures of this section "Disassemby and Assembly".

SYMBOL OF SCREW	SHAPE	PART NUMBER
S1		YQ44457
S2		LY40320-002A
S3		YQ44457-2
S4		SPSN1750Z
S5		YQ44304
S6		YQ44460
S7		LY40320-001A
S8		SPSH1740Z
S9		YQ44457-5

SYMBOL OF WASHER	SHAPE	PART NUMBER
W1		PQM30017-27
W2		Q03093-835
W3		PQM30017-25
W4		LY30015-001A

Table 2-1-1

(For Mechanism Parts)

STEP/LOC. No.	PART		Fig. No.	REMOVAL	INSTALLATION
				*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1)	–
③	REEL DISC (SUP)	T	M1	(W1), (W2)	–
④	SLANT ARM ASSEMBLY	T	M1	(W1)	–
⑤	CANCEL LEVER ASSEMBLY	T	M2	(W1)	–
⑥	EJECT LEVER ASSEMBLY	T	M2	(W1)	–
⑦	CASSETTE GUIDE (L) ASSEMBLY	T	M2	(S1)	–

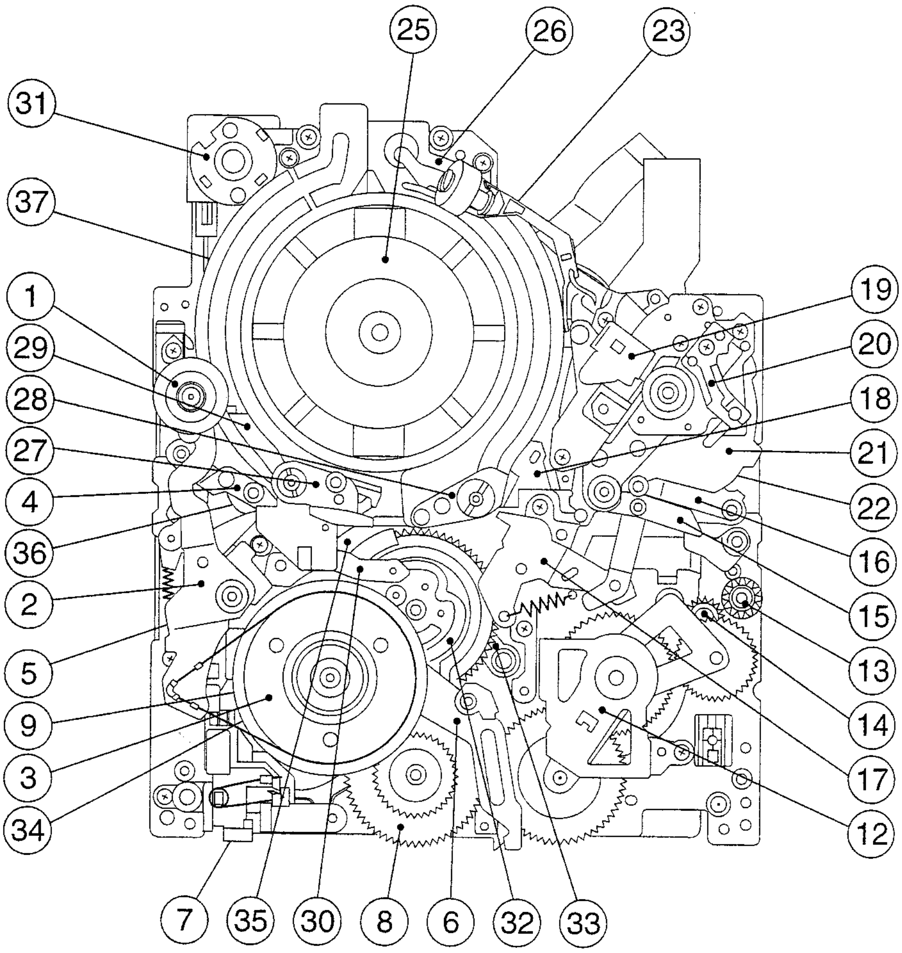
↑① ↑② ↑③ ↑④ ↑⑤ ↑⑥

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART		Fig. No.	REMOVAL	INSTALLATION
				*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	ROLLER BASE ASSEMBLY	T	M1	(S1)	–
②	TENSION ARM ASSEMBLY	T	M1	(P1), (W1)	–
③	REEL DISC (SUP)	T	M1	(W1), (W2)	–
④	SLANT ARM ASSEMBLY	T	M1	(W1)	–
⑤	CANCEL LEVER ASSEMBLY	T	M2	(W1)	–
⑥	EJECT LEVER ASSEMBLY	T	M2	(W1)	–
⑦	CASSETTE GUIDE (L) ASSEMBLY	T	M2	(S1)	–
⑧	SUPPLY CLUTCH ASSEMBLY	T	M2	(W1)	–
⑨	WHEEL GEAR	T	M2	(W1)	See, Adjustment procedure for Section 2.3
⑩	ROTARY ENCODER	B	M3	2(S2)	–
⑪	TIMING BELT	B	M3	–	–
⑫	CENTER PULLEY UNIT	T/B	M3	2(S3)	–
⑬	TU GEAR	T	M3	(W1)	–
⑭	BRAKE SUB GEAR	T	M3	(W1)	–
⑮	P.R ARM ASSEMBLY	T	M3	(W3)	–
⑯	TU GUIDE ARM ASSEMBLY	T	M3	(W1)	–
⑰	LINK ARM ASSEMBLY	T	M4	(W3)	–
⑱	LED GUIDE	T	M4	(S1)	–
⑲	A/C HEAD UNIT	T	M4	2(S4)	–
⑳	SLANT POLE BASE ASSEMBLY	T	M5	(S5)	–
㉑	CAP MOTOR ASSEMBLY	T	M5	3(S5)	–
㉒	MOTOR BASE	T	M5	2(S1), (S6)	–
㉓	CLEANER ASSEMBLY	T/B	M5	2(S7), (L1)	
㉔	BRUSH	B	M6	(S7)	–
㉕	DRUM FINAL	T/B	M6	2(S1), (S8), *CATCHER	–
㉖	GUIDE RAIL	T	M6	8(S9)	–
㉗	POLE BASE (SUP)	T	M6	–	–
㉘	POLE BASE (TU)	T	M6	–	–
㉙	COVER PLATE	T	M7	–	–
㉚	DRIVE LEVER ASSEMBLY	T	M7	–	–
㉛	MOTOR BRACKET ASSEMBLY	T	M7	3(S1)	–
㉜	CONTROL CAM	T	M8	(W4)	See, Adjustment procedure for Section 2.3
㉝	LINK LEVER	T	M8	–	–
㉞	MIDDLE GEAR	T	M8	–	–
㉟	LOADING GEAR(T) ASSEMBLY	T	M8	(W1)	See, Adjustment procedure for Section 2.3
㊱	LOADING GEAR(S) ASSEMBLY	T	M8	(W1)	–
㊲	LOADING RING ASSEMBLY	T	M8	4(S1)	See, Adjustment procedure for Section 2.3

TOP VIEW


25
26
23
31
37
1
29
28
27
4
36
2
5
9
3
34
19
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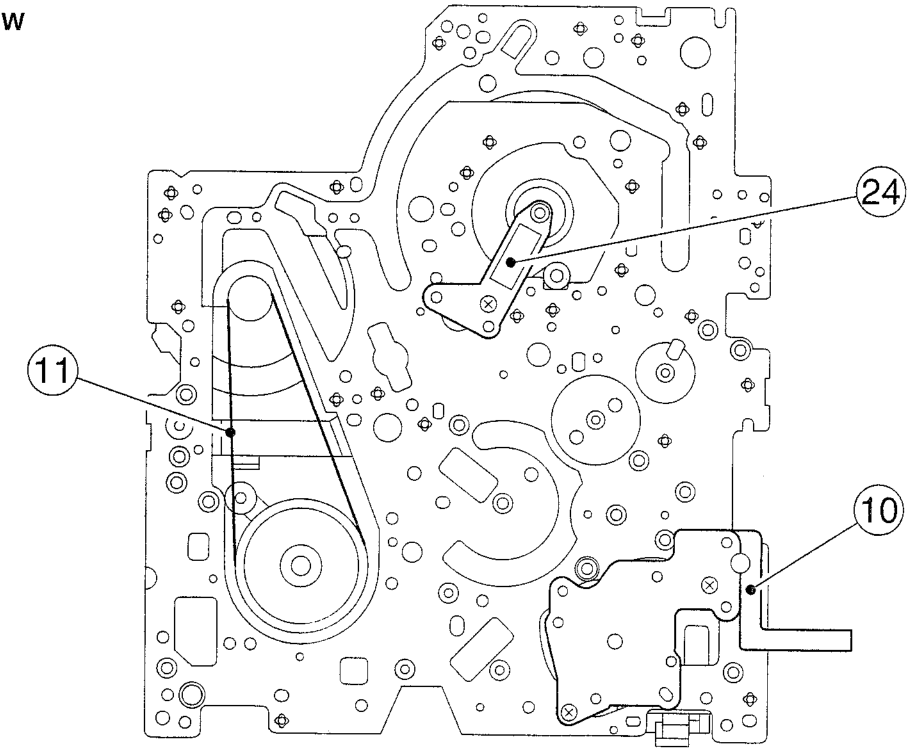
21
22
16
15
13
14
17
12
7
35
30
8
6
32
33

BOTTOM VIEW



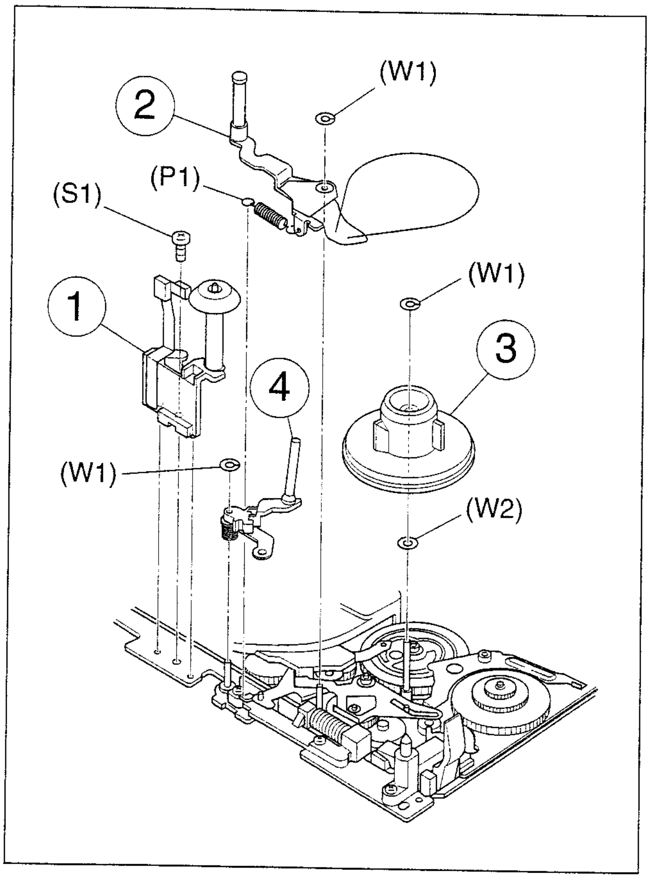

(W1)
2
(P1)
(S1)
1
(W1)
3
4
(W1)
(W2)

Fig. M1

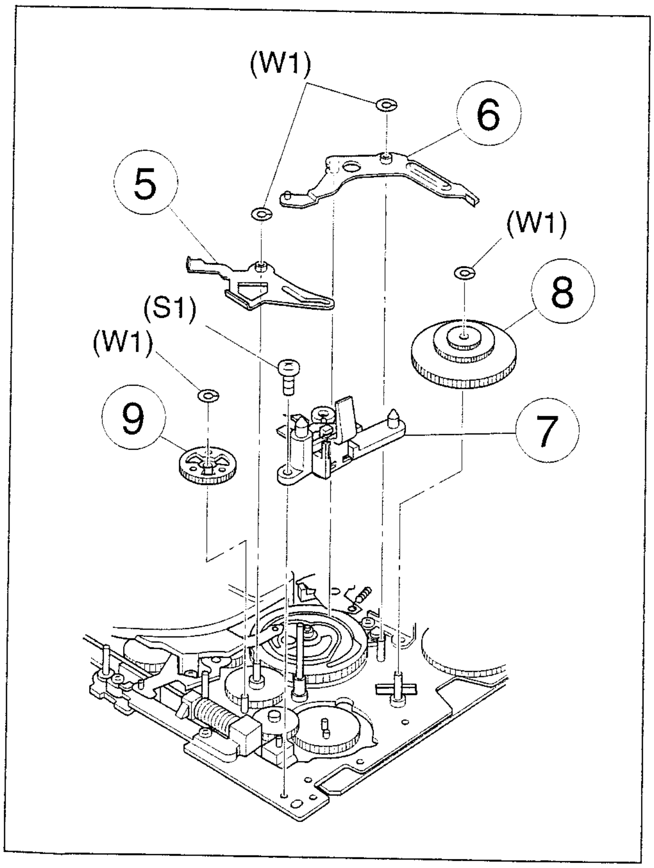

(W1)
6
5
(W1)
(S1)
(W1)
8
9
7

Fig. M2

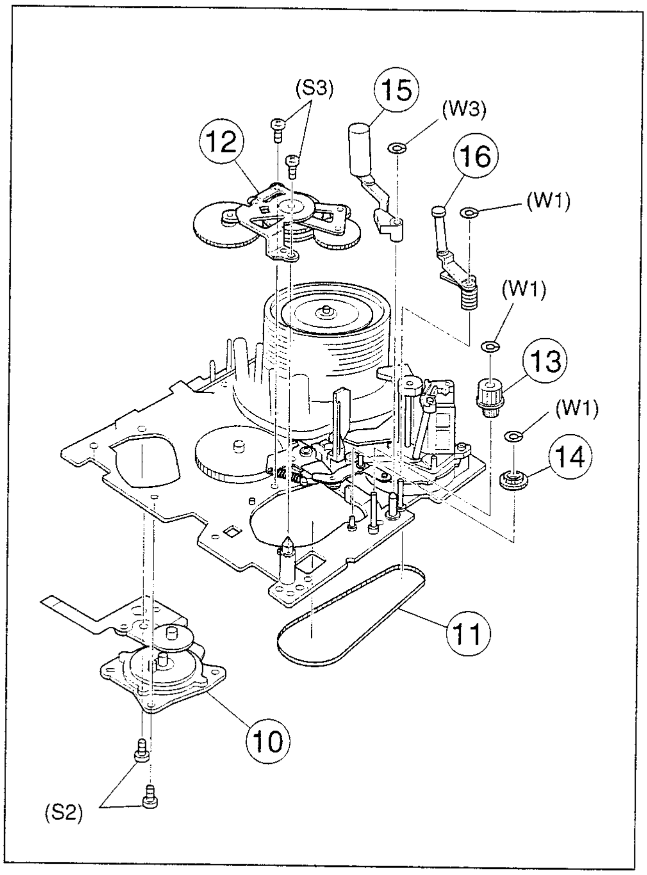

(S3)
15
(W3)
12
16
(W1)
(W1)
13
(W1)
14
11
10
(S2)

Fig. M3

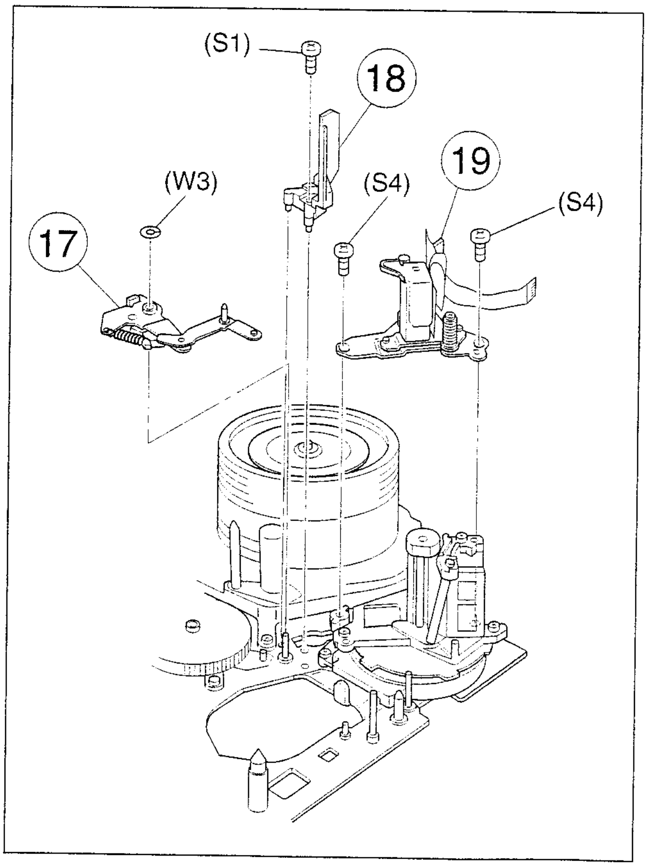

(S1)
18
19
(W3)
(S4)
(S4)
17

Fig. M4

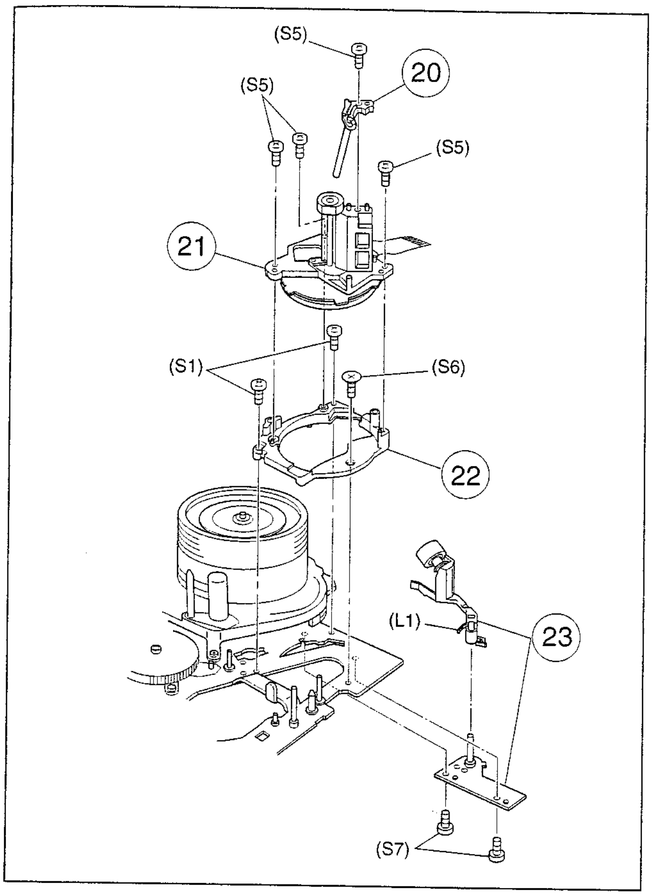

(S5)
20
(S5)
(S5)
21
(S1)
(S6)
22
(L1)
23
(S7)

Fig. M5

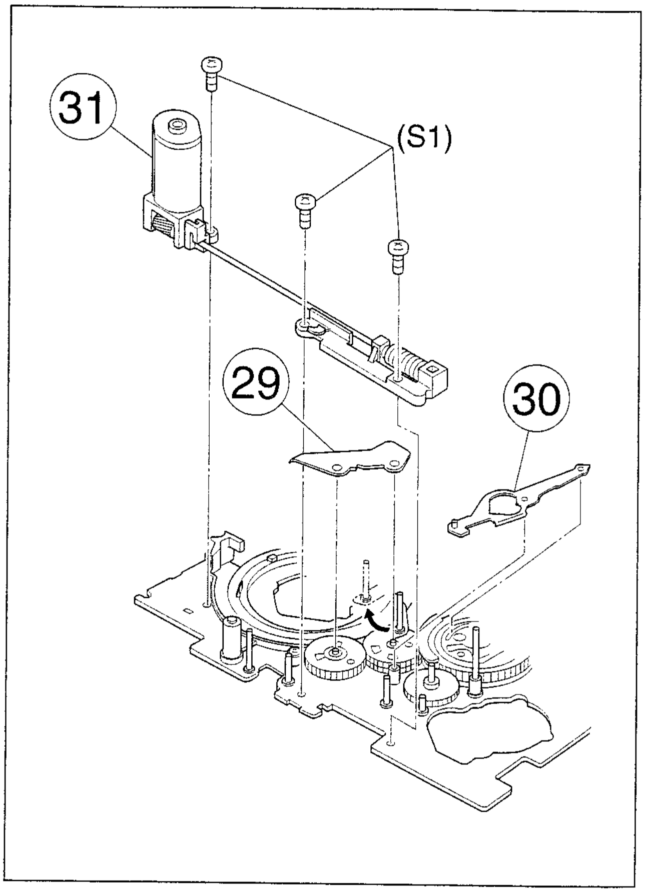


Fig. M7

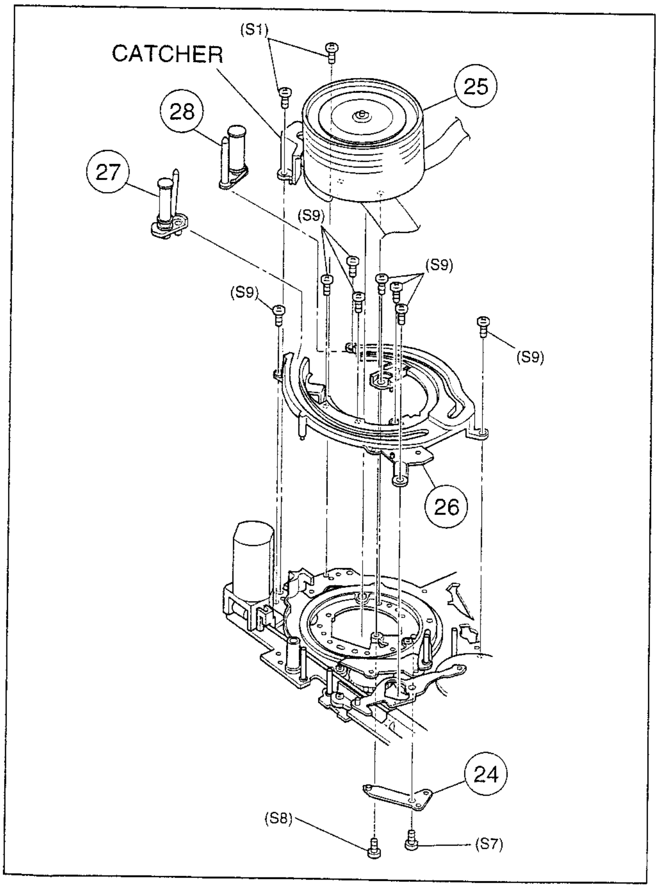

(S1)
CATCHER
25
28
27
(S9)
(S9)
(S9)
(S9)
26
24
(S8)
(S7)

Fig. M6

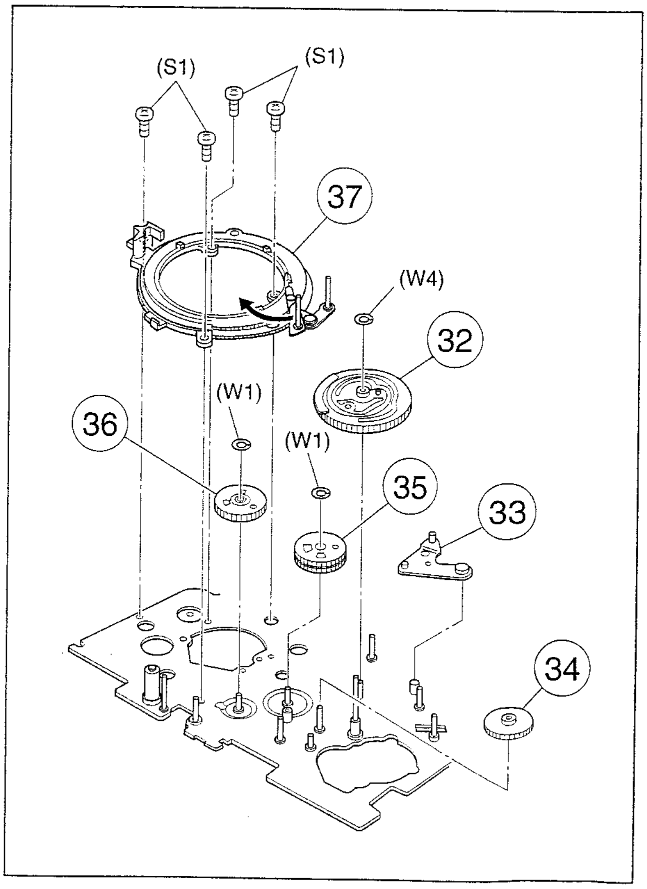

(S1)
(S1)
37
(W4)
32
(W1)
36
(W1)
35
33
34

Fig. M8

2.3 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: *Pay careful attention to the installing order and phase of mechanism parts of the loading system.*

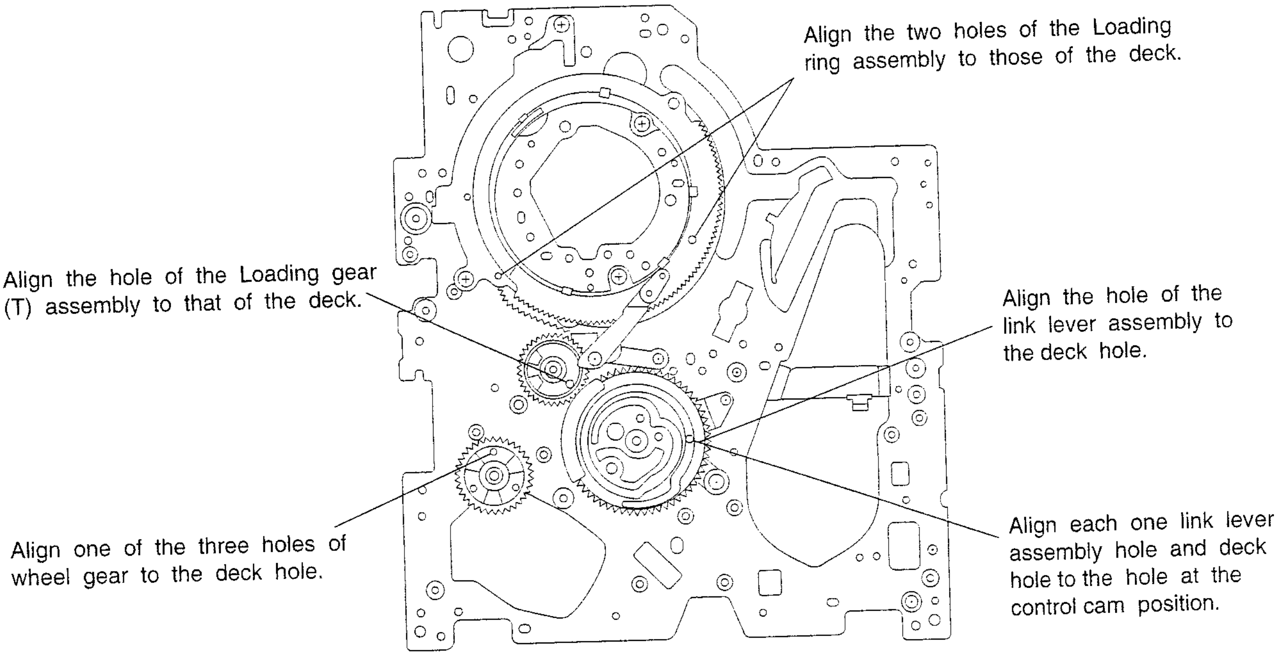

Align the two holes of the Loading ring assembly to those of the deck.
Align the hole of the Loading gear (T) assembly to that of the deck.
Align the hole of the link lever assembly to the deck hole.
Align one of the three holes of wheel gear to the deck hole.
Align each one link lever assembly hole and deck hole to the hole at the control cam position.

Fig. 2-3-1 TOP OF MAIN DECK

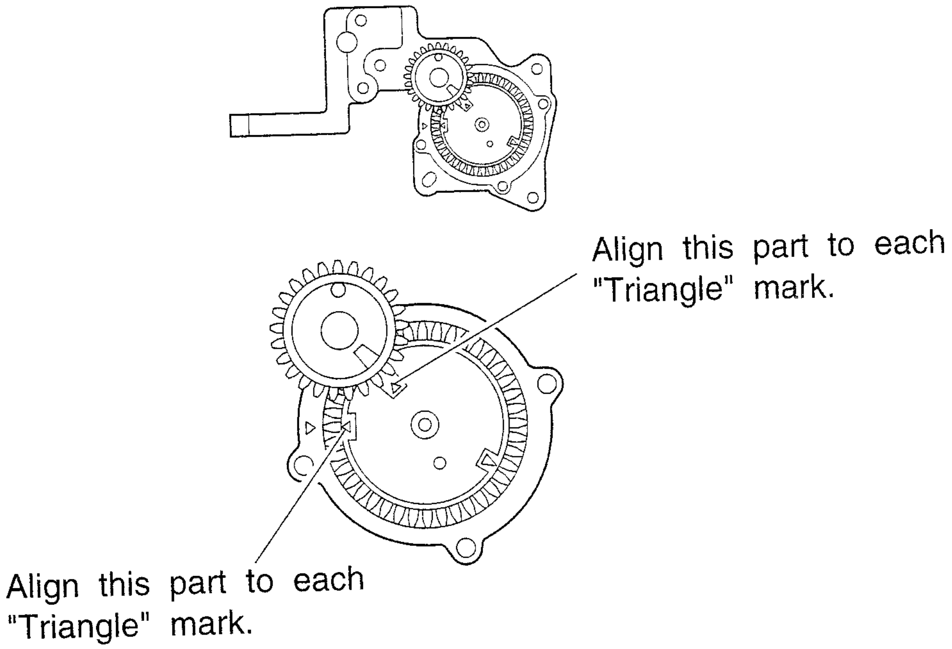

Align this part to each "Triangle" mark.
Align this part to each "Triangle" mark.

Fig. 2-3-2 ROTARY ENCODER

2.4 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.4.1 Required adjustment tools

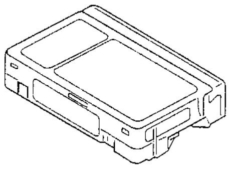
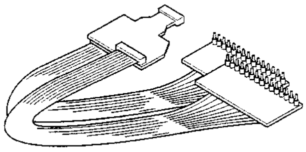
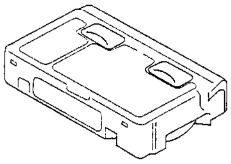
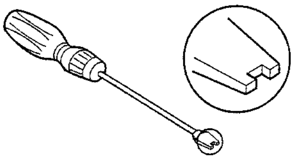
Alignment tape for SP interchangeability MHPE-C: SP	PATCH CORD YTU93082B
	
Cassette torque meter PUJ50431-2	Roller driver PTU94002-2
	

Table 2-4-1

2.4.2 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is 9.5 – 17.5 gf•cm.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is 15 – 25 gf•cm.
   If necessary, replace the center pully unit.

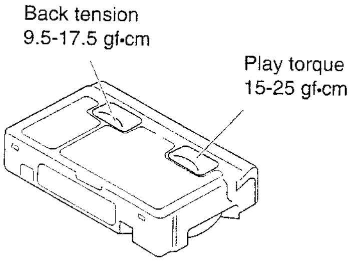


Fig. 2-4-1 Cassette torque meter

2.4.3 Tape pattern

1. Remove the CAP (LITHIUM) and remove the rear cover assembly as shwon on Fig. C3 (Page 1-3).
2. Connect the patch cord (YTU93082B) to CN25 on the MAIN1 board as shwon on Fig. 2-6-1 (Page 2-10).
3. Observe signal at pin 5 of CN1 (V. TP FM) with external trigger from pin 8 of CN1 (V. FF) on the patch cord.
4. Playback the SP stairstep signal of the alignment tape, and maximize the FM waveform by the tracking button.
5. Set the tracking control to the center position by simultaneously pressing the tracking (-) and (+) buttons and maximize the FM waveform by the tracking button.
6. If the observed FM waveform is not flat, adjust the height of the supply of take-up guide roller with the roller driver.

   Note: *To prevent the tape from damage, turn the guide rollers slowly.*

7. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
8. When the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the waveform varies as flat as possible.
   Repeat the above steps 6. and 7. several times to confirm that the waveform is flat as a whole.

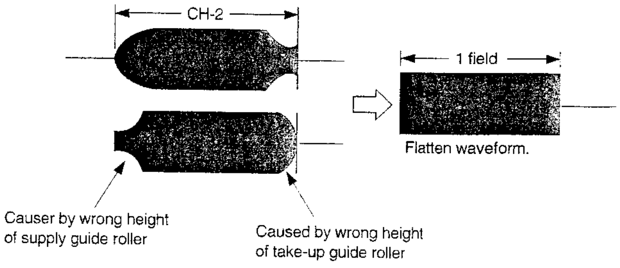

CH-2
1 field
Flatten waveform.
Causer by wrong height of supply guide roller
Caused by wrong height of take-up guide roller

Fig. 2-4-2 FM waveform-1

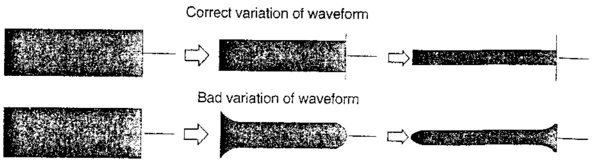


Fig. 2-4-3 FM waveform-2

11. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the pinch roller and TU guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

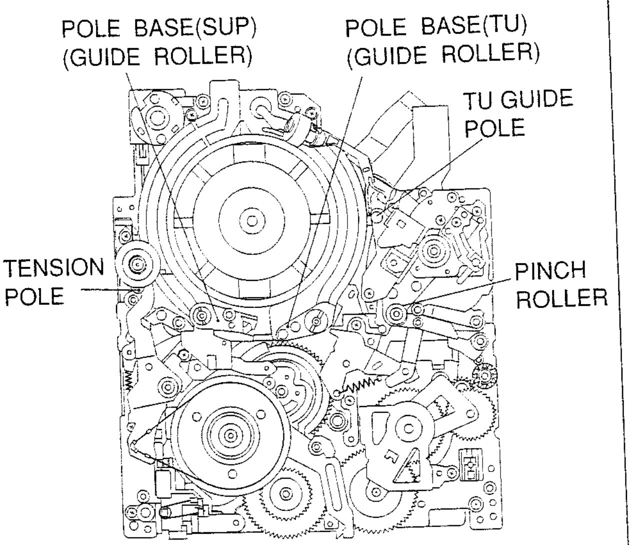

POLE BASE(SUP)
(GUIDE ROLLER)
POLE BASE(TU)
(GUIDE ROLLER)
TU GUIDE
POLE
TENSION
POLE
PINCH
ROLLER

Fig. 2-4-4 Tape transport system

2.4.4 A/CTL head height & azimuth

1. Connect the patch cord (YTU93082B) to CN25 on the MAIN1 board.
2. Connect the channel-1 scope probe to the audio output and connect the channel-2 scope probe to CN1 pin 10 on the patch cord.
3. Playback the SP 6 kHz segment of the alignment tape.
4. Set the tracking to its center range by pressing the (+) and (–) tracking controls simultaneously.
5. Adjust screws Ⓐ, Ⓑ and Ⓒ approximately 45 degrees in the same direction to obtain maximum audio output and CTL signal levels.
6. As a final fine adjustment, adjust screw Ⓑ for minimum signal level fluctuation and screw Ⓒ for maximum output signal level.

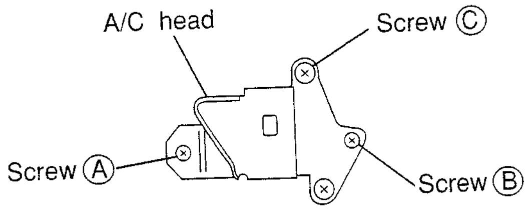

A/C head
Screw Ⓒ
Screw Ⓐ
Screw Ⓑ

Fig. 2-4-5 A/C head

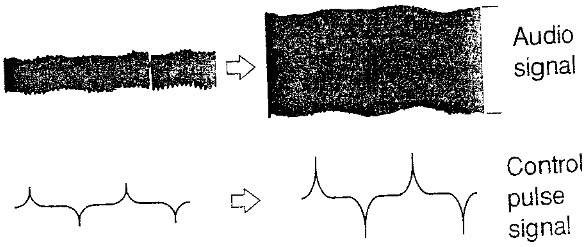

Audio
signal
Control
pulse
signal

Fig. 2-4-6 Audio and CTL signal

2.4.5 Phase of control head (X value)

1. Connect the patch cord (YTU93082B) to CN25 on the MAIN1 board.
2. Play back the SP stairstep signal of the alignment tape and observe signal at pin 5 of CN1 (V.TP FM) with external trigger from pin 8 of CN1 (V.FF) on the patch cord.
3. Operate the tracking button in the center and manual tracking mode by pressing the tracking (+) and (–) buttons and confirm that the FM output level is maximum at the center position as shown in Fig. 2-4-8.
4. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the Tweezers into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
5. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' – b' in Fig. 2-4-8).
6. Fine adjust the phase of the A/C head and tighten the screws Ⓓ and Ⓔ at the point a.

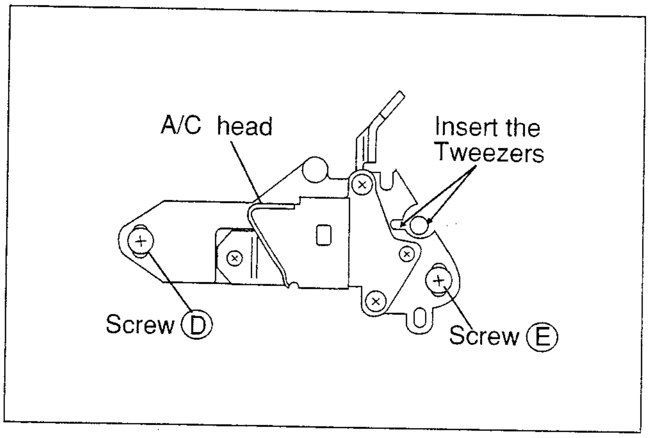


Fig. 2-4-7 Phase of control head

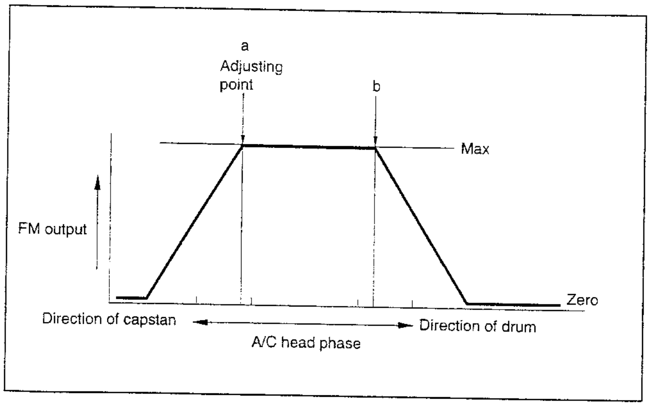


Fig. 2-4-8 Phase adjustment point of control head

2.5 REMARKS

2.5.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

   Note: *Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.*

2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.5.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3). Table 2-5-1 specifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Symbol in drawing
Grease	Grease	AA
Oil	Cosmo Hydro HV100	BB

Table 2-5-1 Specific oil and grease to be used

2.5.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect back tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

2.6 PATCH CORD (YTU93082B) CONNECTION

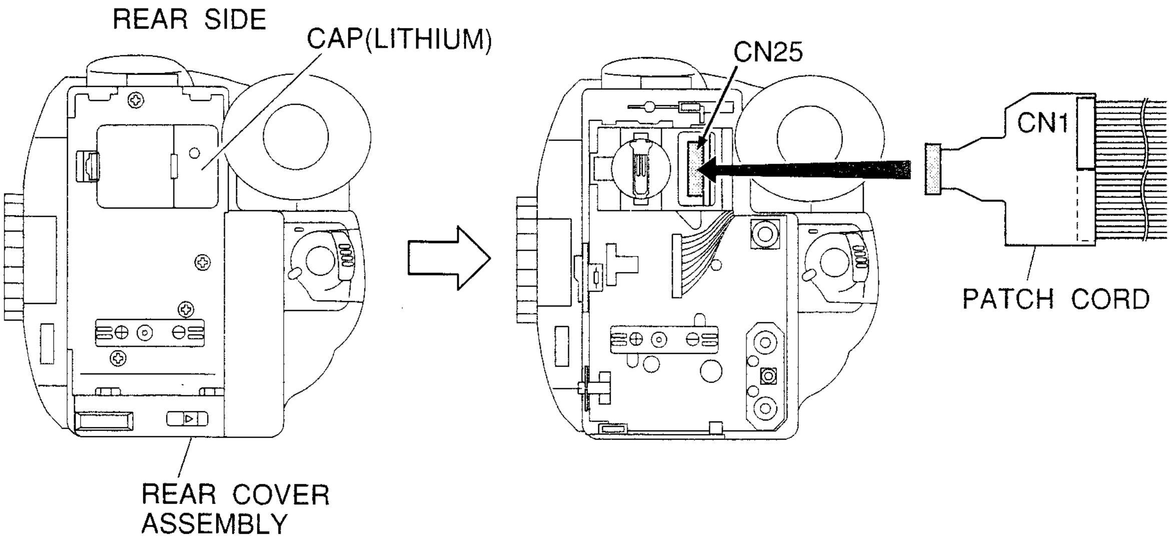

REAR SIDE
CAP(LITHIUM)
CN25
CN1
PATCH CORD
REAR COVER ASSEMBLY

Fig. 2-6-1 PATCH CORD CONNECTION

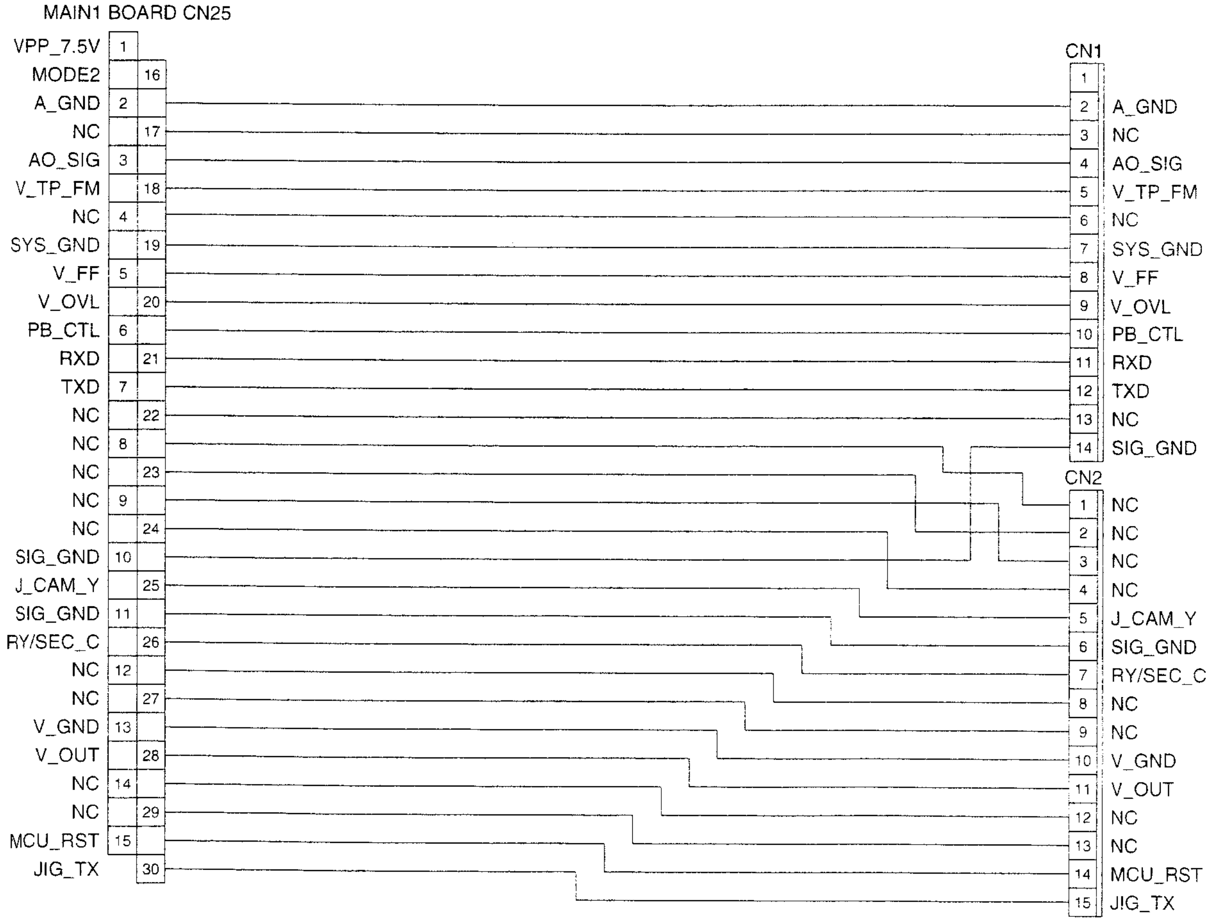

MAIN1 BOARD CN25
VPP_7.5V 1
MODE2 16
A_GND 2
NC 17
AO_SIG 3
V_TP_FM 18
NC 4
SYS_GND 19
V_FF 5
V_OVL 20
PB_CTL 6
RXD 21
TXD 7
NC 22
NC 8
NC 23
NC 9
NC 24
SIG_GND 10
J_CAM_Y 25
SIG_GND 11
RY/SEC_C 26
NC 12
NC 27
V_GND 13
V_OUT 28
NC 14
NC 29
MCU_RST 15
JIG_TX 30
CN1
1
2 A_GND
3 NC
4 AO_SIG
5 V_TP_FM
6 NC
7 SYS_GND
8 V_FF
9 V_OVL
10 PB_CTL
11 RXD
12 TXD
13 NC
14 SIG_GND
CN2
1 NC
2 NC
3 NC
4 NC
5 J_CAM_Y
6 SIG_GND
7 RY/SEC_C
8 NC
9 NC
10 V_GND
11 V_OUT
12 NC
13 NC
14 MCU_RST
15 JIG_TX

Fig. 2-6-2 PATCH CORD SCHEMATIC DIAGRAM

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJUSTMENT

3.1.1 PREPARATION

1. Precaution

This model does not contain adjustment controls (VR). General deck system and camera system adjustment are not required. However, if MAIN1 board need replacement, please use original E²PROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required (Refer to sec. 3.1.1-5). Please contact to JVC Service for detaile information.

- OP block
- E²PROM (IC105 of MAIN1 board)

In the event of malfunction with electrical circuits, troubleshooting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between operation un it and DECK chassis.

2. Required test equipment

1. Color TV monitor.
2. AC power adapter (AA-V15 and AA-V11 or equivalent)
3. Oscilloscope (dual-trace type, for more than 20 MHz).
4. Digital voltmeter
5. Frequency counter (with threshold level adjuster)
6. Personal computer

3. Required adjustment tools

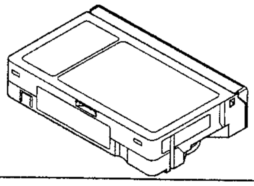
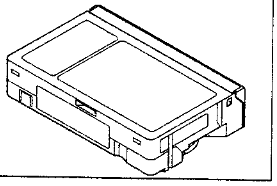
Alignment tape (for SP interchangeability) MHPE-C	Alignment tape (for N. SP PB Y/C level) MHVE-2C
	

Table 3-1-1 Required adjustment tools

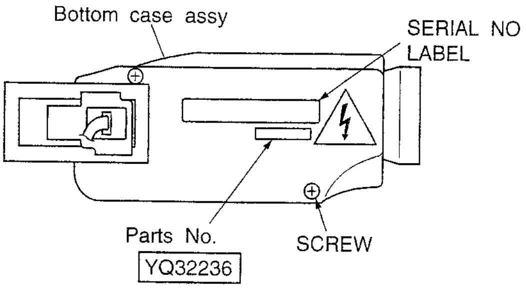
4. Setup for E. VF section adjustment

Referring to "SEC. 1 DISASSEMBLY" and connect the E. VF FPC to CN12 of the MAIN1 board.

Note:

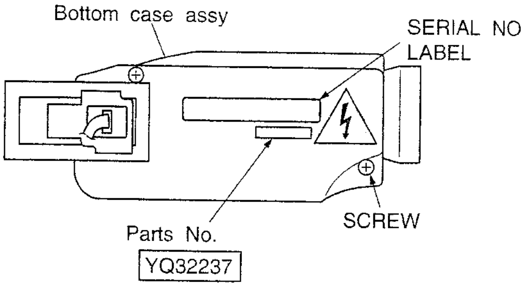
- *There are two types of E. VFs for this model.*
- *The adjustment procedure of them are different. For performing the adjustment, please follow the item mentioned on the figure below.*

<TYPE M> (YQ32236)



Adjustment Item : 3.2

<TYPE T> (YQ32237)



Adjustment Item : 3.3

5. Required adjustment tools for Service support system

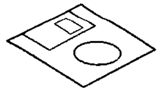
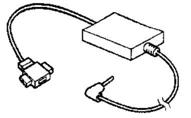
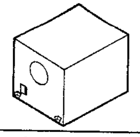
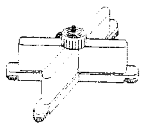
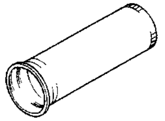
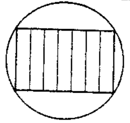
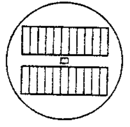
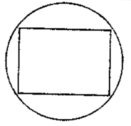
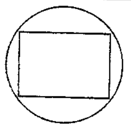
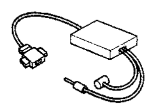
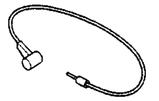
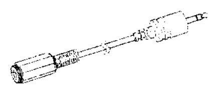
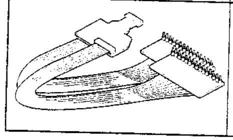
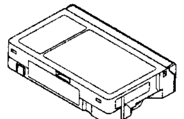
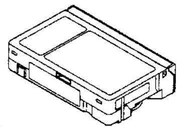
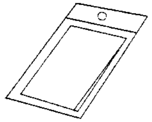
service suport system software YTU94057-28	PC cable QAM0099-002	Light box YTU93072A-1	Camera stand YTU93079
			
Infinity adjustment lens YTU92001B	Color bar chart YTU92001-051	Gray scale chart YTU92001-052	White balance chart YTU92001-053
			
Skintone chart YTU92001-054	Interface cable YTU93063	Adapter cable YTU94066	JLIP conversion cable YTU94084A
			
Patch cord YTU93082B	Alignment tape (for SP Interchangeability) MHPE-C	Alignment tape (for N. SP PB Y/C level) MHVE-2C	Cleaning cloth KSMM-01
			

Table 3-1-2 Required adjustment tools for Service support system

6. Connections for Service support system

<TYPE I>

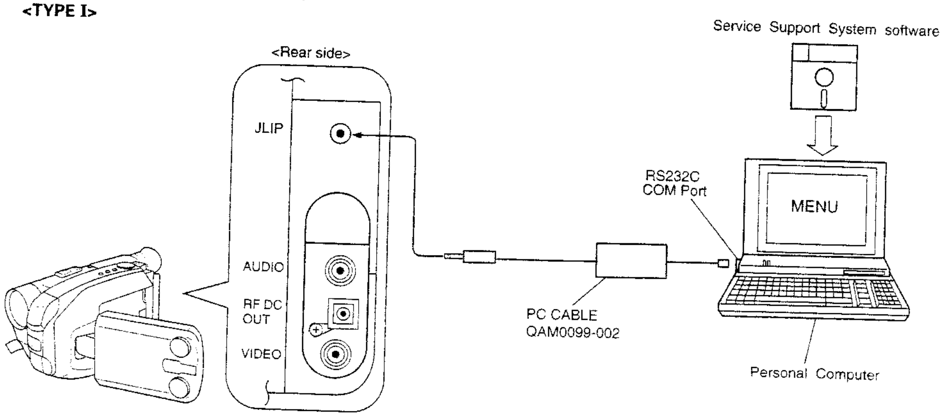

Service Support System software
<Rear side>
JLIP
AUDIO
RF DC OUT
VIDEO
RS232C COM Port
MENU
PC CABLE QAM0099-002
Personal Computer

Fig. 3-1-1 Connection for Service support system (TYPE I)

<TYPE II>

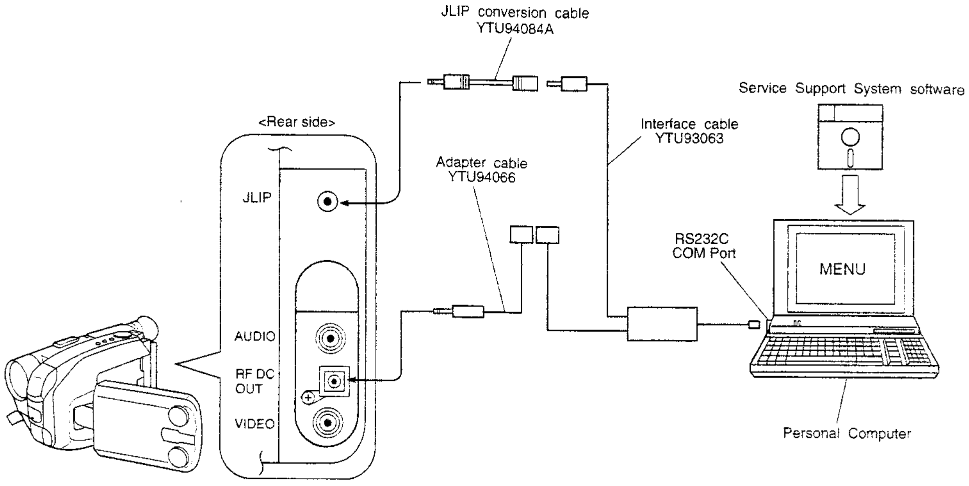

JLIP conversion cable YTU94084A
Service Support System software
<Rear side>
Interface cable YTU93063
Adapter cable YTU94066
JLIP
RS232C COM Port
MENU
AUDIO
RF DC OUT
VIDEO
Personal Computer

Fig. 3-1-2 Connection for Service support system (TYPE II)

■ CIRCUIT PROTECTOR LOCATION FOR MAIN1

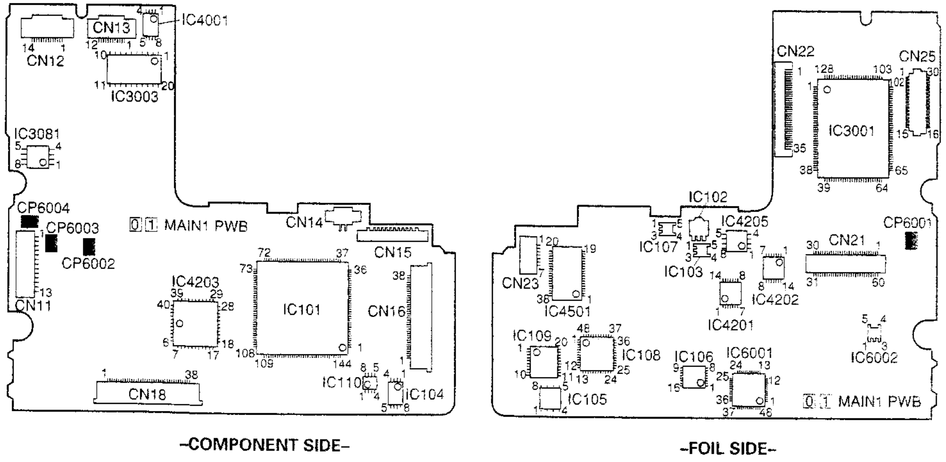

IC4001
CN13
CN12
IC3003
IC3081
CP6004
CP6003
CP6002
MAIN1 PWB
CN14
CN15
CN11
IC4203
IC101
CN16
CN18
IC110
IC104
-COMPONENT SIDE-
CN22
CN25
IC3001
IC102
CP6001
IC4205
IC107
CN21
CN23
IC103
IC4202
IC4501
IC4201
IC109
IC108
IC106
IC6001
IC6002
IC105
MAIN1 PWB
-FOIL SIDE-

Fig. 3-1-3 Circuit protector location for MAIN1 board assembly

3.2 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT <TYPE M>

Notes: *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*

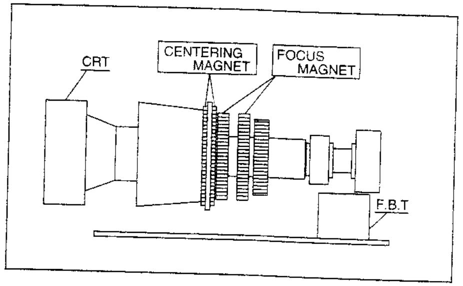


Fig. 3-2-1 E. VF

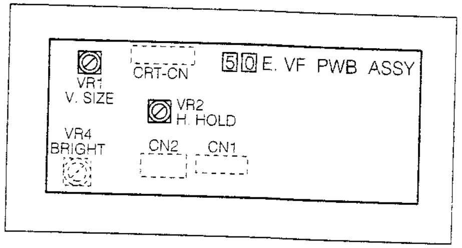


Fig. 3-2-2 E. VF board

3.2.1 Horizontal sync.

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR2 (H. HOLD)
Specification	• The midpoint of the two markings

1) Observing the viewfinder screen, turn VR2 fully clockwise to make the picture unstable.
2) Slowly return VR2 counterclockwise to find a point where the picture becomes stable, and mark this position.
3) Turn VR2 fully counterclockwise to make the picture unstable in the same manner as 1) above.
4) Slowly return VR2 clockwise until the picture becomes stable, and mark this position.
5) Finally set VR2 to the midpoint between the two markings of 2) and 4).

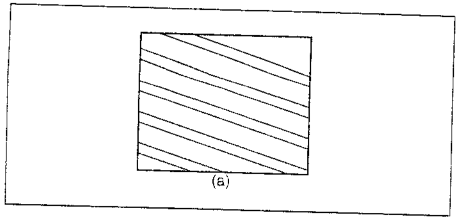


Fig. 3-2-3 Horizontal sync. 1

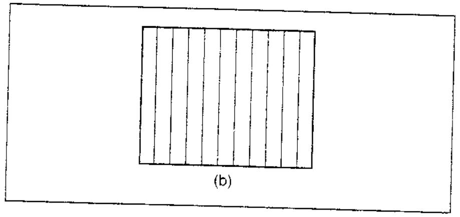


Fig. 3-2-4 Horizontal sync. 2

3.2.2 PLL adjustment

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR1 (V. SIZE)
Specification	• Normal picture amplitude

1) Observing the viewfinder screen, adjust VR1 for normal picture amplitude.

3.2.3 Centering

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Centering magnet (CRT assy)
Specification	• The center of the E. VF screen

1) While observing the viewfinder screen, adjust the centering magnet to locate the stairstep in the center of the viewfinder screen.

3.2.4 Focus

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurment point	• E. VF screen
Adjustment part	• Focus magnet (CRT assy)
Specification	• The center area is clear and defined

1) While observing the viewfinder screen, adjust the focus magnet for the deflecting yoke so that the picture at the central area of the screen is clear and defined.

3.2.5 Brightness

Subject	• -
Mode	• EE • Lens closed
Equipment	• E. VF
Measurment point	• E. VF screen
Adjustment part	• VR4 (BRIGHT)
Specification	• The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR4 so that the raster of the CRT is just visible in the E. VF.

3.3 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT <TYPE T>

Notes:

- *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*
- *After adjustment or replacement of the deflection yoke or the centering magnet, fix it by the band as shown the figure below.*

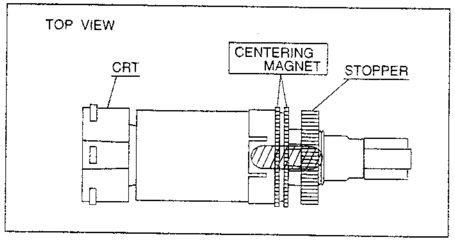


Fig. 3-3-1 E. VF

- *After adjustment is completed, compare the picture on the E. VF screen with the monitor TV.*

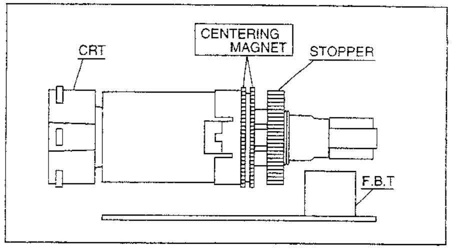


Fig. 3-3-2 E. VF

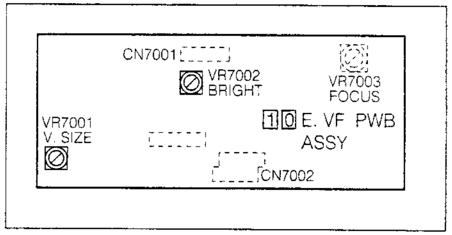


Fig. 3-3-3 E. VF board

3.3.1 Tilt

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Deflection yoke
Specification	• The picture is visible as same as monitor TV.

1) Put the deflection yoke to the most inner side of CRT neck first. Then fix the stopper temporary.
2) Adjust the tilt of picture on the E. VF screen by tilting the deflection yoke.
3) Fix the stopper completely.

3.3.2 Centering

Subject	• Alignment tape • Stairstep
Mode	• PB
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• Centering magnet (CRT assy)
Specification	• The center of the E. VF screen

1) While observing the viewfinder screen, adjust the centering magnet to locate the stairstep in the center of the viewfinder screen.

3.3.3 Vertical scanning

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7001 (V. SIZE)
Specification	• Normal picture amplitude

1) Observing the viewfinder screen, adjust VR7001 for normal picture amplitude.

3.3.4 Brightness

Subject	• –
Mode	• EE • Lens closed
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7002 (BRIGHT)
Specification	• The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR7002 so that the raster of the CRT is just visible in the E. VF.

3.3.5 Focus

Subject	• Camera picture
Mode	• EE
Equipment	• E. VF
Measurement point	• E. VF screen
Adjusting part	• VR7003 (FOCUS)
Specification	• The center area is clear and defined

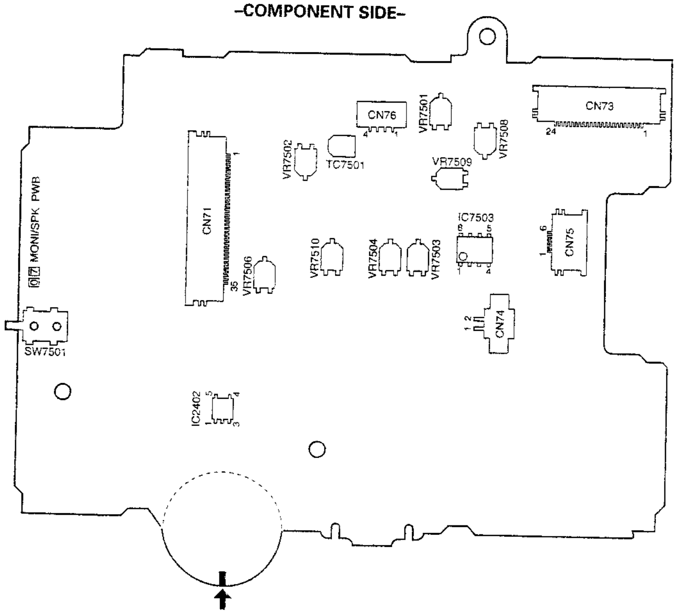
1) While observing the viewfinder screen, adjust VR7003 so that the picture at the central area of the screen is clear and defined.

3.4 MONITOR SECTION ADJUSTMENT

Notes:
- *Unless otherwise specified, all measurment points and adjustment parts are located on MONITOR board.*
- *During adjustments, set VR7507 (BRIGHT) to the center detent position.*
- *When adjusting the monitor section, confirm that the camera and deck sections have correctly been adjusted.*

■ADJUSTMENT ELEMENT LOCATION FOR MONITOR SECTION

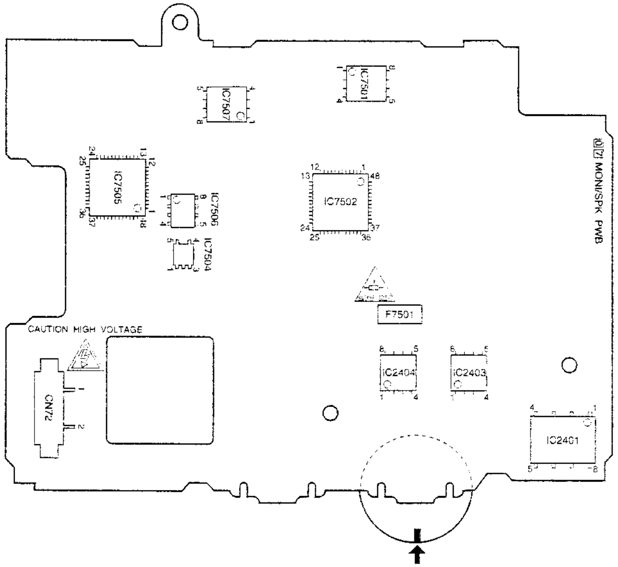
-COMPONENT SIDE-


CN76
VR7501
CN73
24
1
VR7508
VR7502
TC7501
VR7509
CN71
35
IC7503
CN75
VR7510
VR7504
VR7503
VR7506
MONI/SPK PWB
SW7501
CN74
IC2402

VR7507(BRIGHT)
"Center position"

Fig. 3-4-1 Adjustment element location for MONITOR board assembly (COMPONENT side)

-FOIL SIDE-


IC7501
IC7507
IC7505
IC7506
IC7504
IC7502
F7501
CAUTION HIGH VOLTAGE
CN72
IC2404
IC2403
IC2401
MONI/SPK PWB

VR7507(BRIGHT)
"Center position"

Fig. 3-4-2 Adjustment element location for MONITOR board assembly (FOIL side)

3.4.1 HD

Signal	• No signal
Mode	• EE
Equipment	• Frequency counter
Measurement point	•CN71 - 14 pin (MON HD)
Adjustment part	• VR7508 (HD)
Specification	•15.734 ± 0.05 kHz

(1) Connect the frequency counter to CN71 - 14 pin.
(2) Adjust VR7508 for 15.734 ± 0.05 kHz.

3.4.2 Bright

Signal	• Alignment tape • Stairsteps
Mode	• PB
Equipment	• Oscilloscope
Measurement point	• CN76 - 3 pin (G)
Adjustment part	• VR7506 (BRIGHT)
Specification	• "A" = 4.0 ± 0.1 Vp-p

(1) Connect an oscilloscope to CN76 - 3 pin (G).
(2) Adjust VR7506 so that level of "A" of a waveform becomes 4.0 ± 0.1 Vp-p.

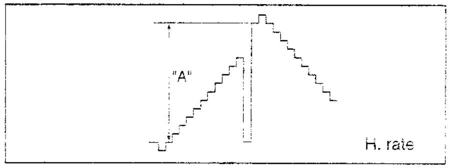


Fig. 3-4-3 BRIGHT

3.4.3 Contrast

Signal	• Alignment tape • Stairsteps
Mode	• PB
Equipment	• Oscilloscope
Measurement point	• CN76 - 3 pin (G)
Adjustment part	•VR7510 (CONTRAST)
Specification	• "A" = 2.2 ± 0.1 Vp-p

(1) Connect an oscilloscope to CN76 - 3 pin.
(2) Adjust VR7510 so that level of "A" (5th step) of a waveform becomes 2.2 ± 0.1 Vp-p.

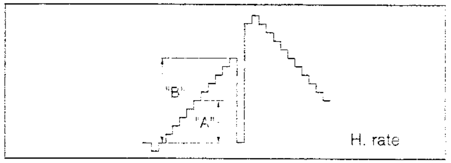


Fig. 3-4-4 CONTRAST

3.4.4 Color tint

Signal	• Alignment tape • Color bar
Mode	• PB
Equipment	• Oscilloscope
Measurement point	• CN76 - 4 pin (B)
Adjustment part	• VR7509 (TINT)
Specification	• W ≦ Cy , Mg ≦ B (Note)

Note: Adjust VR7509 so that both Cy and Mg levels are equivalent to a straight line connecting the black and white levels with each other.

(1) Connect an oscilloscope to CN76 - 4 pin.
(2) Adjust VR7509 so that both Cy and Mg levels are equivalent to a straight line connecting the black and white levels with each other.

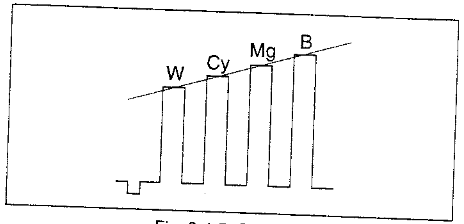


Fig. 3-4-5 Color tint

3.4.5 Color level

Signal	• Alignment tape • Color bar
Mode	• PB
Equipment	• Oscilloscope
Measurement point	•CN76 - 4 pin (B)
Adjustment part	•VR7502 (COLOR LEVEL)
Specification	• "A" = 0.1 ± 0.1 Vp-p

(1) Connect an oscilloscope to CN76 - 4 pin.
(2) Adjust VR7502 so that level of "A" of a waveform becomes 0.1 ± 0.1 Vp-p.

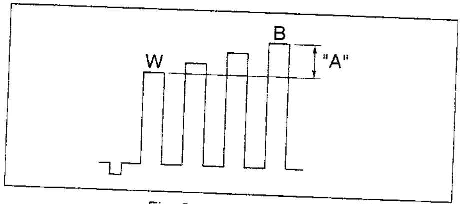


Fig. 3-4-6 Color level

3.4.6 Color phase COMP

Signal	• Alignment tape • Color bar
Mode	• PB
Equipment	• Oscilloscope
Measurement point	•CN76 - 4 pin (B)
Adjustment part	•TC7501 (COLOR PHASE COMP)
Specification	• "A" ≦ 0.1 V

(1) Connect an oscilloscope to CN76 - 4 pin.
(2) Adjust TC7501 so that level of "A" of a waveform becomes less than 0.1 V.

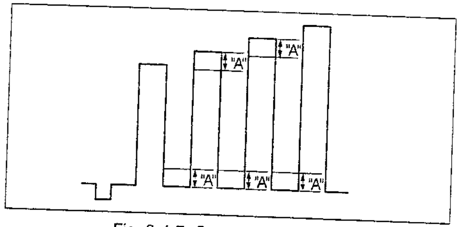


Fig. 3-4-7 Color phase COMP

3.4.7 V. COM

Signal	• Alignment tape • Stairsteps
Mode	• PB
Equipment	• LCD MONITOR
Measurement point	• –
Adjustment part	• VR7501 (V COM)
Specification	• Black level must correctly be reproduced on the LCD MONITOR. (There is a sharp contrast between black and white parts.)

(1) Adjust VR7501 to make sharp contrast between black and white parts on the LCD MONITOR screen.
(2) Adjust VR7501 so that black and whitre levels (patticularly black level in the contour) is sharply reproduced on the LCD MONITOR screen.

3.4.8 White balance

Signal	• Alignment tape • Stairsteps
Mode	• PB
Equipment	• LCD MONITOR
Measurement point	• –
Adjustment part	• VR7503 (WHITE BALANCE (R)) • VR7504 (WHITE BALANCE (B))
Specification	• Black and white levels must correctly and sharply be reproduced on the LCD MONITOR screen.

(1) Adjust VR7503 so that black and white levels are sharply reproduced on the LCD MONITOR screen.
(2) Adjust VR7504 for the same purpose as the above step (1).

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

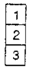
Unless otherwise specified.

1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or IN4148M (refer to parts list).

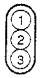
2. Indications of control voltage

AUX : Active at high
$\overline{\text{AUX}}$ or AUX(L) : Active at low

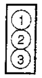
3. Interpreting Connector indications



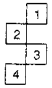
Removable connector



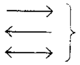
Wire soldered directly on board



Non-removable Board connector



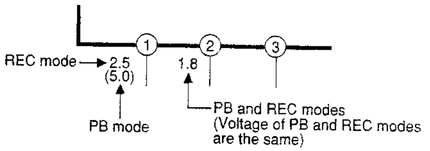
Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

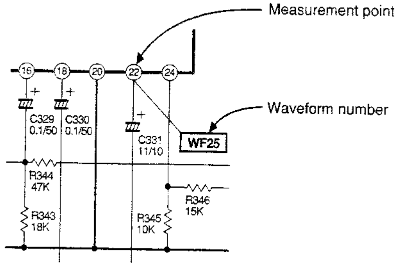
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



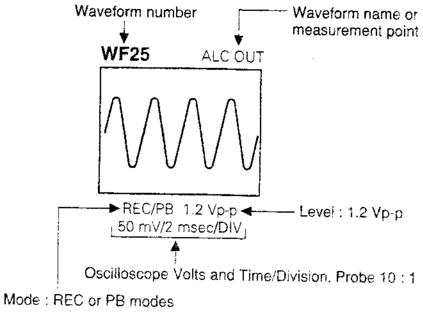
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.

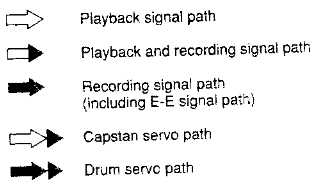


5) Waveform indications

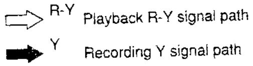


6. Signal path Symbols

The arrows indicate the signal path as follows.

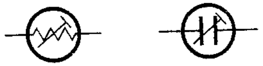

Playback signal path
Playback and recording signal path
Recording signal path
(including E-E signal path)
Capstan servo path
Drum servc path

(Example)


R-Y
Playback R-Y signal path
Y
Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

CIRCUIT BOARD NOTES

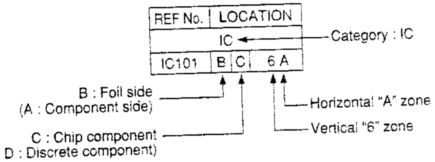
1. Foil and Component sides

1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.

2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

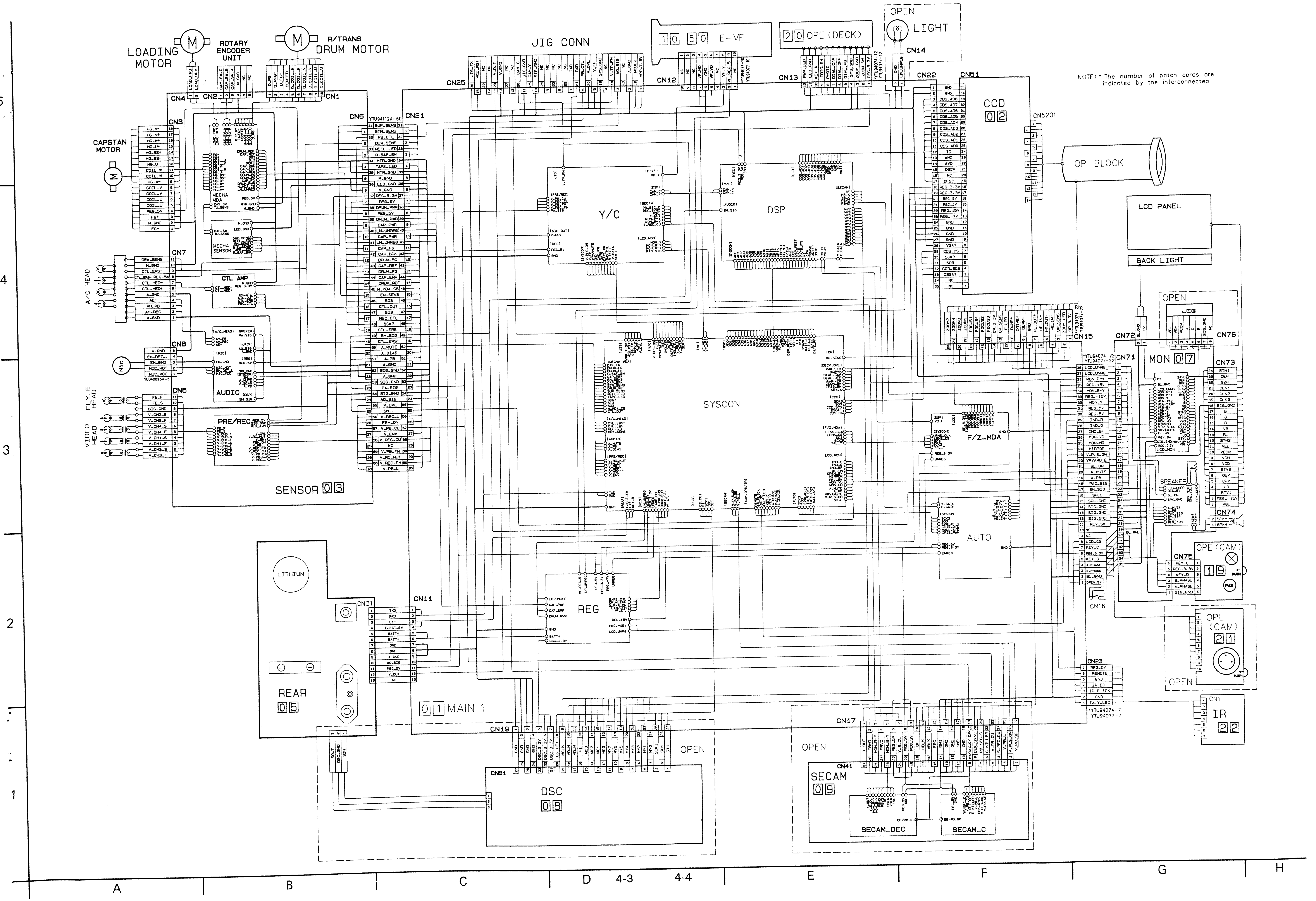
2. Parts location guides

Parts location are indicated by guide scale on the circuit board.


REF No.
LOCATION
IC
Category : IC
IC101
B
C
6 A
B : Foil side
(A : Component side)
C : Chip component
D : Discrete component)
Horizontal "A" zone
Vertical "6" zone

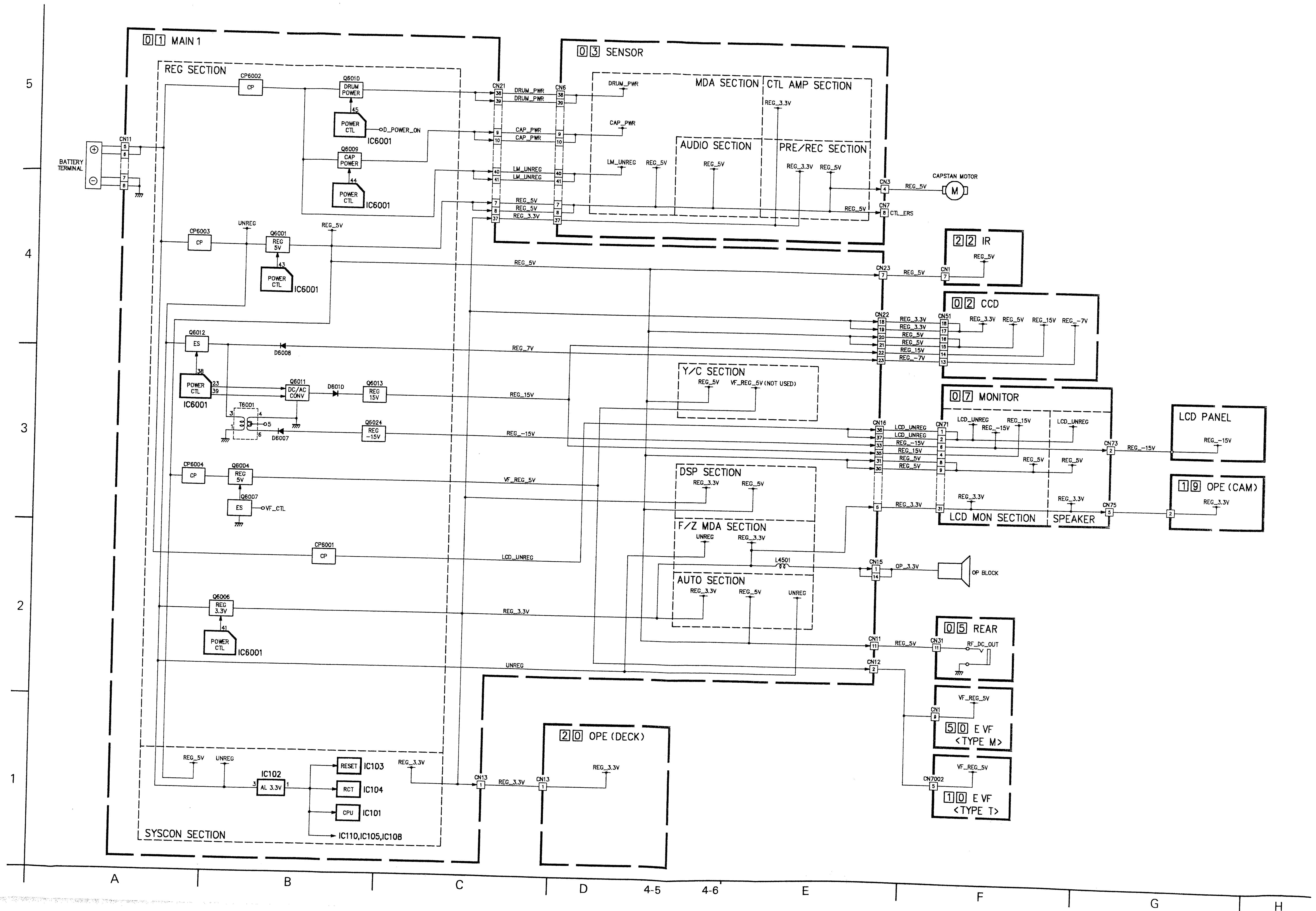
Note:
For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS


LOADING MOTOR
ROTARY ENCODER UNIT
R/TRANS DRUM MOTOR
JIG CONN
10 50 E-VF
20 OPE (DECK)
OPEN
LIGHT
CN14
CN4
CN2
CN1
CN3
CN6
CN21
CN25
CN12
CN13
CN22
CN51
CCD
02
CN5201
OP BLOCK
LCD PANEL
BACK LIGHT
CAPSTAN MOTOR
MECHA MDA
MECHA SENSOR
CN7
A/C HEAD
CTL AMP
CN8
MIC
AUDIO
CN5
FLY_E HEAD
VIDEO HEAD
PRE/REC
SENSOR 03
Y/C
DSP
SYSCON
OPEN
JIG
CN72
CN76
CN15
CN71
MON 07
CN73
F/Z_MDA
SPEAKER
CN74
AUTO
OPE (CAM)
CN75
19
PAE
CN16
OPE (CAM) 21
OPEN
LITHIUM
CN31
CN11
REG
REAR
05
01 MAIN 1
CN19
CN81
DSC
08
OPEN
CN17
OPEN
CN41
SECAM
09
SECAM_DEC
SECAM_C
CN23
*YTU94074-7
YTU94077-7
CN1
IR
22
*YTU94074-22
YTU94077-22
YTU94112A-60
YJU40095A-5
1
2
3
4
5
A
B
C
D
E
F
G
H

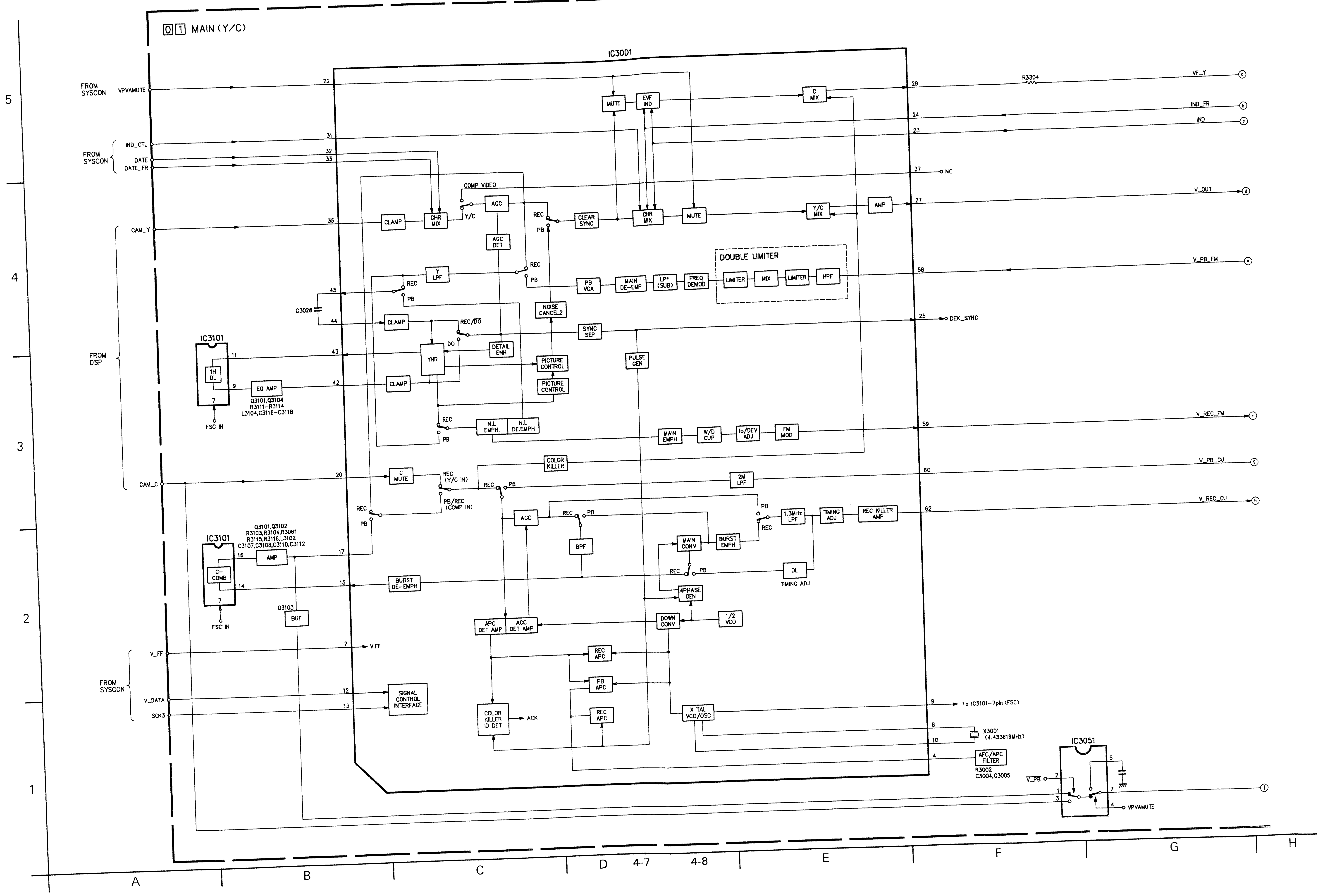
NOTE) * The number of patch cords are indicated by the interconnected.

4.2 POWER SYSTEM BLOCK DIAGRAM

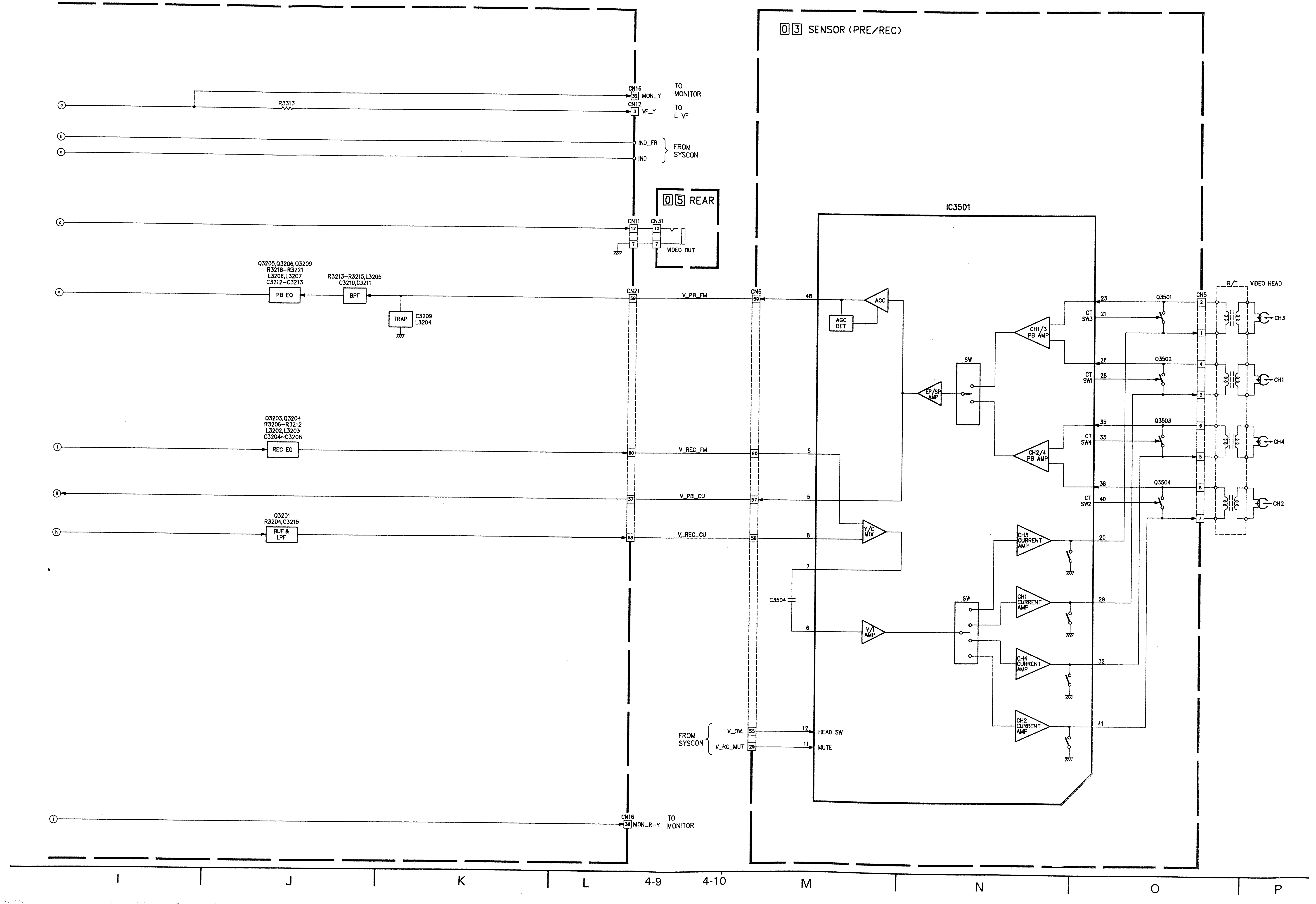


01 MAIN 1
REG SECTION
BATTERY TERMINAL
CN11
CP6002
CP
Q6010
DRUM POWER
POWER CTL
IC6001
D_POWER_ON
Q6009
CAP POWER
CP6003
UNREG
Q6001
REG 5V
REG_5V
Q6012
ES
D6008
REG_7V
Q6011
DC/AC CONV
D601D
Q6013
REG 15V
REG_15V
T6001
D6007
Q6024
REG −15V
REG_−15V
CP6004
Q6004
Q6007
VF_CTL
VF_REG_5V
CP6001
LCD_UNREG
Q6006
REG 3.3V
REG_3.3V
SYSCON SECTION
IC102
AL 3.3V
RESET
IC103
RCT
IC104
CPU
IC101
IC110,IC105,IC108
CN21
CN6
DRUM_PWR
CAP_PWR
LM_UNREG
03 SENSOR
MDA SECTION
CTL AMP SECTION
AUDIO SECTION
PRE/REC SECTION
CN3
CN7
CTL_ERS
CAPSTAN MOTOR
M
22 IR
CN23
CN1
02 CCD
CN22
CN51
REG_−7V
Y/C SECTION
VF_REG_5V (NOT USED)
07 MONITOR
CN16
CN71
LCD MON SECTION
SPEAKER
CN73
CN75
LCD PANEL
19 OPE (CAM)
DSP SECTION
F/Z MDA SECTION
L4501
CN15
OP_3.3V
OP BLOCK
AUTO SECTION
CN11
CN12
05 REAR
CN31
RF_DC_OUT
CN1
50 E VF <TYPE M>
CN7002
10 E VF <TYPE T>
CN13
20 OPE (DECK)
A
B
C
D
E
F
G
H
1
2
3
4
5

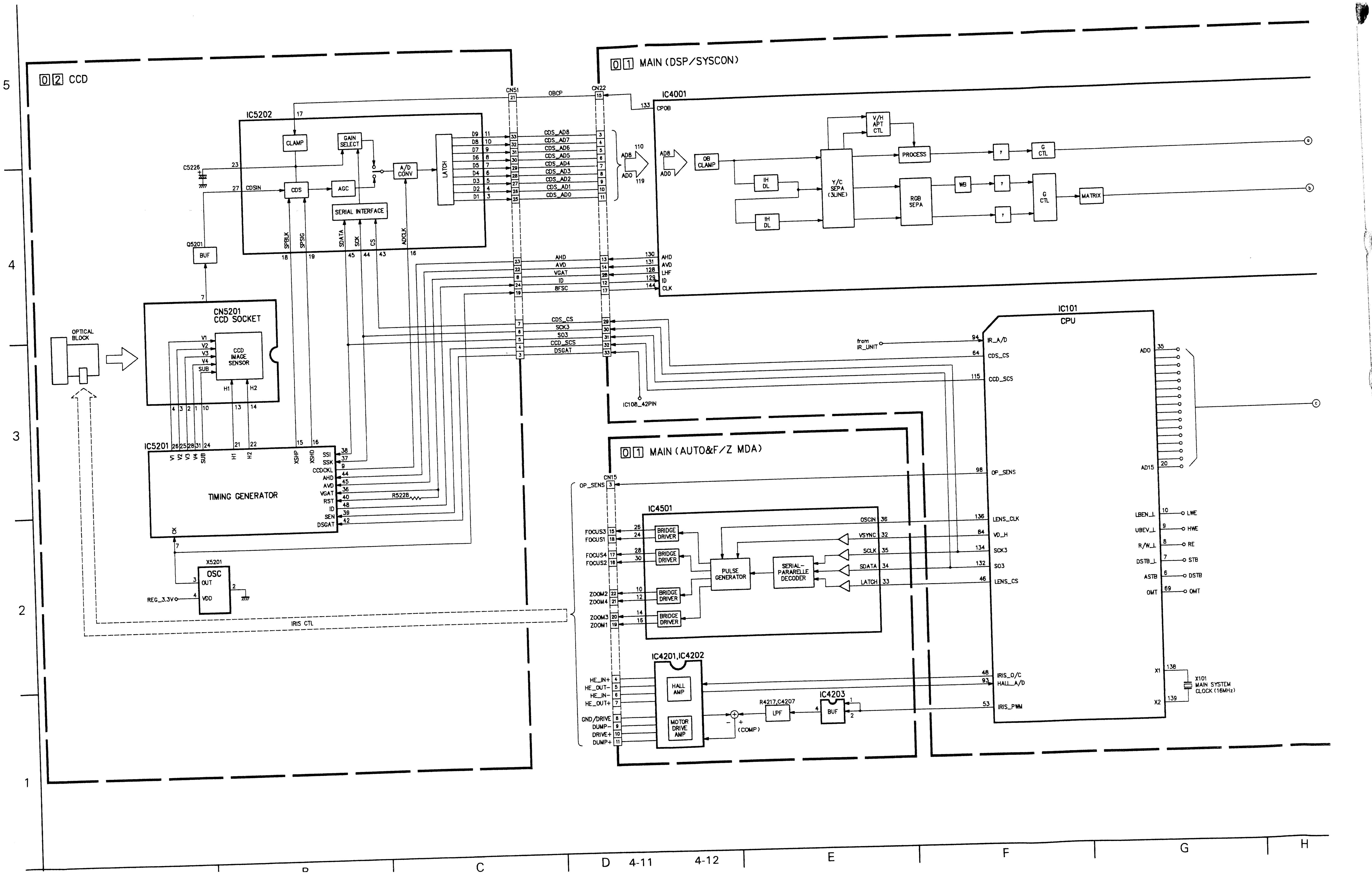
4.3 Y/C BLOCK DIAGRAM

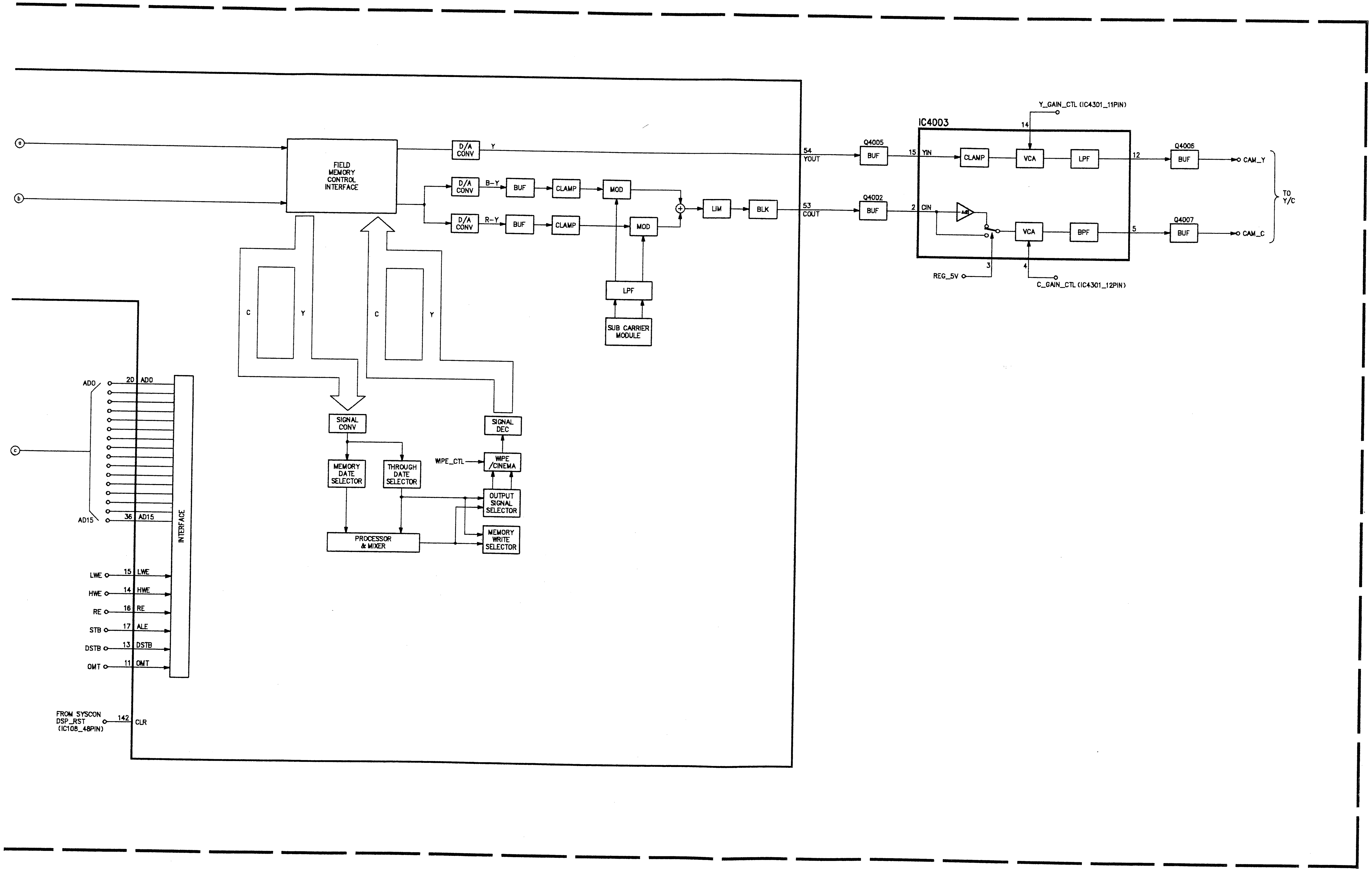


01 MAIN (Y/C)
IC3001
FROM SYSCON
VPVAMUTE
FROM SYSCON
IND_CTL
DATE
DATE_FR
CAM_Y
FROM DSP
CAM_C
IC3101
1H DL
FSC IN
EQ AMP
Q3101,Q3104
R3111–R3114
L3104,C3116–C3118
IC3101
C-COMB
AMP
Q3101,Q3102
R3103,R3104,R3061
R3115,R3116,L3102
C3107,C3108,C3110,C3112
Q3103
BUF
FROM SYSCON
V_FF
V_DATA
SCK3
C3028
MUTE
EVF IND
C MIX
COMP VIDEO
AGC
AGC DET
CLAMP
CHR MIX
Y/C
REC
PB
CLEAR SYNC
CHR MIX
MUTE
Y/C MIX
AMP
Y LPF
PB VCA
MAIN DE-EMP
LPF (SUB)
FREQ DEMOD
DOUBLE LIMITER
LIMITER
MIX
LIMITER
HPF
NOISE CANCEL2
CLAMP
REC/DO
DO
SYNC SEP
DETAIL ENH
YNR
PICTURE CONTROL
PICTURE CONTROL
PULSE GEN
CLAMP
N.L EMPH.
N.L DE.EMPH
MAIN EMPH
W/D CLIP
fo/DEV ADJ
FM MOD
C MUTE
REC (Y/C IN)
PB/REC (COMP IN)
COLOR KILLER
2M LPF
ACC
BPF
MAIN CONV
BURST EMPH
1.3MHz LPF
TIMING ADJ
REC KILLER AMP
DL
TIMING ADJ
BURST DE-EMPH
4PHASE GEN
APC DET AMP
ACC DET AMP
DOWN CONV
1/2 VCO
V.FF
REC APC
PB APC
SIGNAL CONTROL INTERFACE
COLOR KILLER ID DET
ACK
REC APC
X TAL VCO/OSC
R3304
VF_Y
IND_FR
IND
NC
V_OUT
V_PB_FM
DEK_SYNC
V_REC_FM
V_PB_CU
V_REC_CU
To IC3101–7pin (FSC)
X3001 (4.433619MHz)
AFC/APC FILTER
R3002
C3004,C3005
IC3051
V_PB
VPVAMUTE
22
31
32
33
35
45
44
43
42
11
9
7
20
16
17
14
15
7
7
12
13
29
24
23
37
27
58
25
59
60
62
9
8
10
4
1
2
3
4
5
7
ⓐ
ⓑ
ⓒ
ⓓ
ⓔ
ⓕ
ⓖ
ⓗ
ⓘ
ⓙ
A
B
C
D
E
F
G
H
1
2
3
4
5

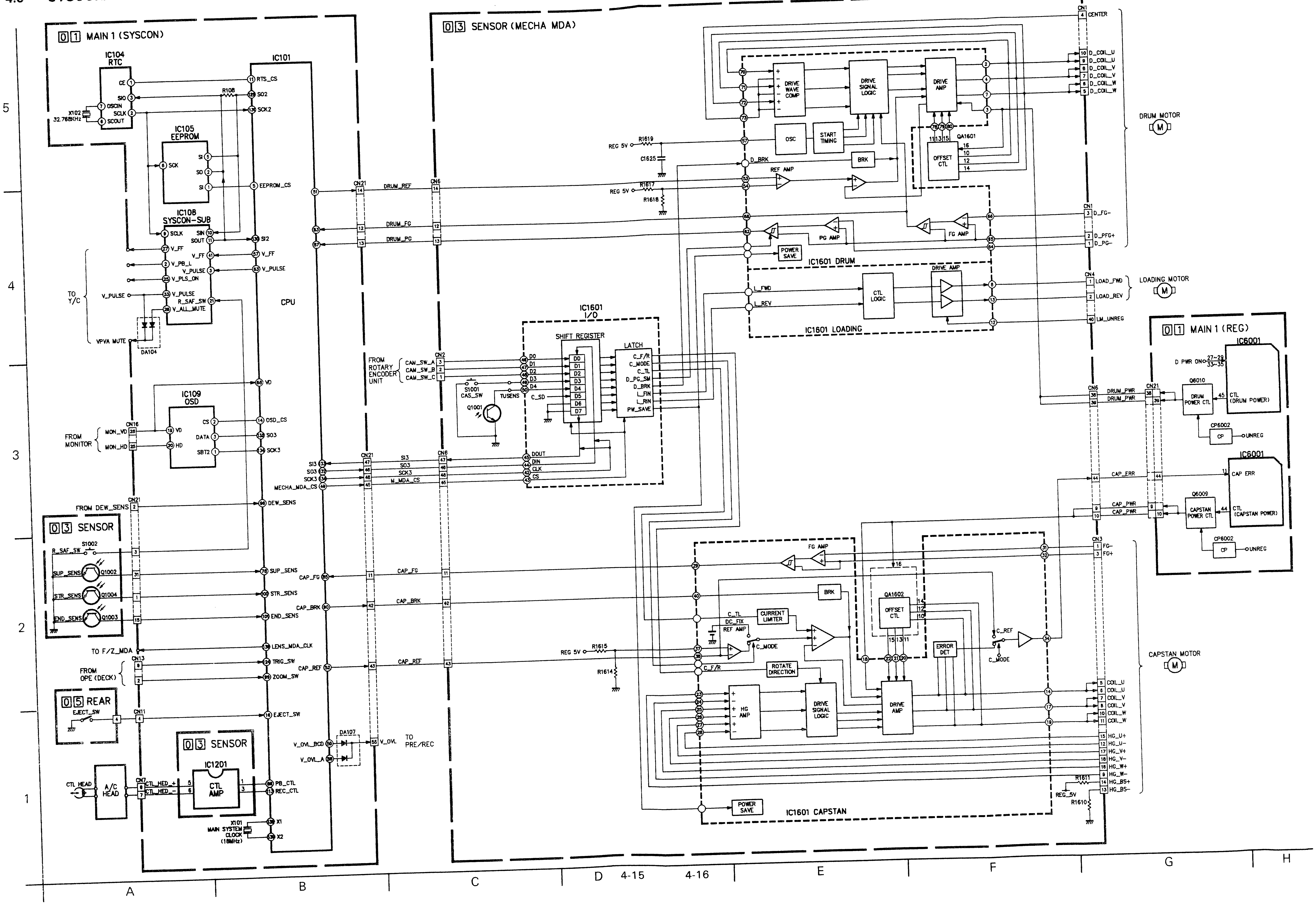

03 SENSOR (PRE/REC)
05 REAR
a
b
c
d
e
f
g
h
j
R3313
CN16
32
MON_Y
TO MONITOR
CN12
3
VF_Y
TO E VF
IND_FR
IND
FROM SYSCON
CN11
12
7
CN31
12
7
VIDEO OUT
Q3205,Q3206,Q3209
R3216–R3221
L3206,L3207
C3212–C3213
PB EQ
R3213–R3215,L3205
C3210,C3211
BPF
TRAP
C3209
L3204
CN21
59
V_PB_FM
CN6
59
48
Q3203,Q3204
R3206–R3212
L3202,L3203
C3204~C3208
REC EQ
60
V_REC_FM
60
9
57
V_PB_CU
57
5
Q3201
R3204,C3215
BUF & LPF
58
V_REC_CU
58
8
7
C3504
6
FROM SYSCON
V_OVL
55
12
HEAD SW
V_RC_MUT
29
11
MUTE
CN16
36
MON_R-Y
TO MONITOR
IC3501
AGC
AGC DET
EP/SP AMP
SW
CH1/3 PB AMP
CH2/4 PB AMP
Y/C MIX
V/I AMP
SW
CH3 CURRENT AMP
CH1 CURRENT AMP
CH4 CURRENT AMP
CH2 CURRENT AMP
23
CT SW3
21
26
CT SW1
28
35
CT SW4
33
38
CT SW2
40
20
29
32
41
Q3501
Q3502
Q3503
Q3504
CN5
2
1
4
3
6
5
8
7
R/T
VIDEO HEAD
CH3
CH1
CH4
CH2
I
J
K
L
M
N
O
P

4.4 CAMERA BLOCK DIAGRAM


02 CCD
01 MAIN (DSP/SYSCON)
01 MAIN (AUTO&F/Z MDA)
IC5202
CLAMP
GAIN SELECT
CDS
AGC
A/D CONV
LATCH
SERIAL INTERFACE
SPBLK
SPSIG
SDATA
SCK
CS
ADCLK
CDSIN
C5226
Q5201
BUF
CN5201 CCD SOCKET
CCD IMAGE SENSOR
V1
V2
V3
V4
SUB
H1
H2
OPTICAL BLOCK
IC5201
TIMING GENERATOR
XSHP
XSHD
SSI
SSK
CCDCKL
AHD
AVD
VGAT
RST
ID
SEN
DSGAT
CK
R5228
X5201
OSC
OUT
VDD
REG_3.3V
IRIS CTL
CN51
CN22
OBCP
CDS_AD8
CDS_AD7
CDS_AD6
CDS_AD5
CDS_AD4
CDS_AD3
CDS_AD2
CDS_AD1
CDS_AD0
AHD
AVD
VGAT
ID
BFSC
CDS_CS
SCK3
SO3
CCD_SCS
DSGAT
IC108_42PIN
IC4001
CPOB
AD8
AD0
OB CLAMP
1H DL
Y/C SEPA (3LINE)
V/H APT CTL
PROCESS
RGB SEPA
WB
γ
G CTL
MATRIX
AHD
AVD
LHF
ID
CLK
IC101
CPU
from IR_UNIT
IR_A/D
CDS_CS
CCD_SCS
OP_SENS
LENS_CLK
VD_H
SCK3
SO3
LENS_CS
IRIS_O/C
HALL_A/D
IRIS_PWM
AD0
AD15
LBEN_L
UBEV_L
R/W_L
DSTB_L
ASTB
OMT
LWE
HWE
RE
STB
DSTB
OMT
X1
X2
X101 MAIN SYSTEM CLOCK (16MHz)
CN15
OP_SENS
IC4501
BRIDGE DRIVER
PULSE GENERATOR
SERIAL-PARARELLE DECODER
OSCIN
VSYNC
SCLK
SDATA
LATCH
FOCUS3
FOCUS1
FOCUS4
FOCUS2
ZOOM2
ZOOM4
ZOOM3
ZOOM1
IC4201,IC4202
HALL AMP
MOTOR DRIVE AMP
HE_IN+
HE_OUT-
HE_IN-
HE_OUT+
GND/DRIVE
DUMP-
DRIVE+
DUMP+
(COMP)
R4217,C4207
LPF
IC4203
BUF
a
b
c
1
2
3
4
5
B
C
D
E
F
G
H

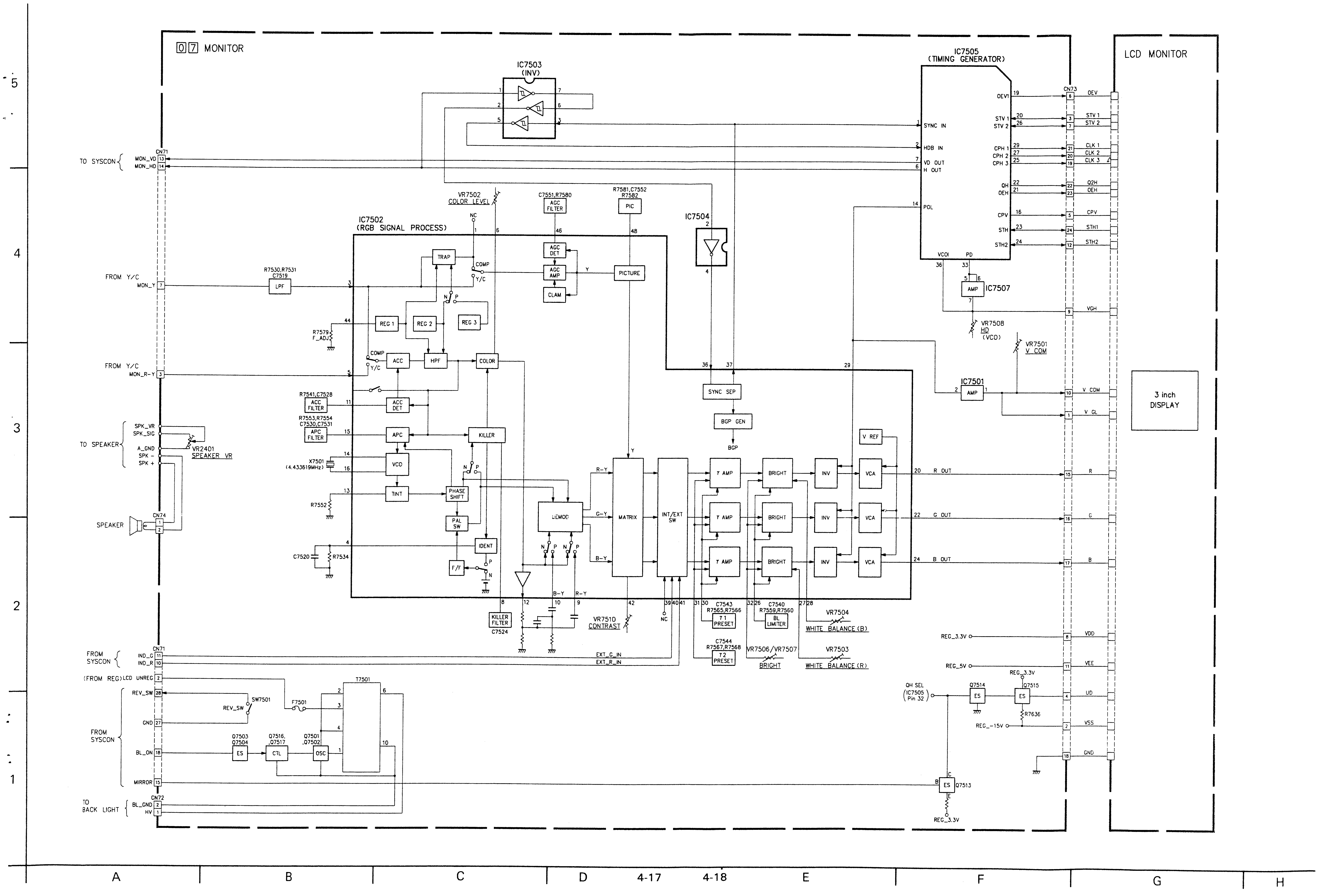

a
b
c
FIELD MEMORY CONTROL INTERFACE
D/A CONV
Y
D/A CONV
B-Y
BUF
CLAMP
MOD
D/A CONV
R-Y
BUF
CLAMP
MOD
LIM
BLK
LPF
SUB CARRIER MODULE
C
Y
C
Y
SIGNAL CONV
SIGNAL DEC
MEMORY DATE SELECTOR
THROUGH DATE SELECTOR
WPE_CTL
WPE /CINEMA
OUTPUT SIGNAL SELECTOR
PROCESSOR & MIXER
MEMORY WRITE SELECTOR
AD0
20 AD0
AD15
36 AD15
INTERFACE
LWE 15 LWE
HWE 14 HWE
RE 16 RE
STB 17 ALE
DSTB 13 DSTB
OMT 11 OMT
FROM SYSCON DSP_RST (IC108_48PIN)
142 CLR
54 YOUT
53 COUT
Q4005
BUF
Q4002
BUF
IC4003
15 YIN
2 CIN
CLAMP
VCA
LPF
VCA
BPF
6dB
Y_GAIN_CTL (IC4301_11PIN)
14
12
5
3
4
REG_5V
C_GAIN_CTL (IC4301_12PIN)
Q4006
BUF
Q4007
BUF
CAM_Y
CAM_C
TO Y/C

4.5 SYSCON/MDA BLOCK DIAGRAM

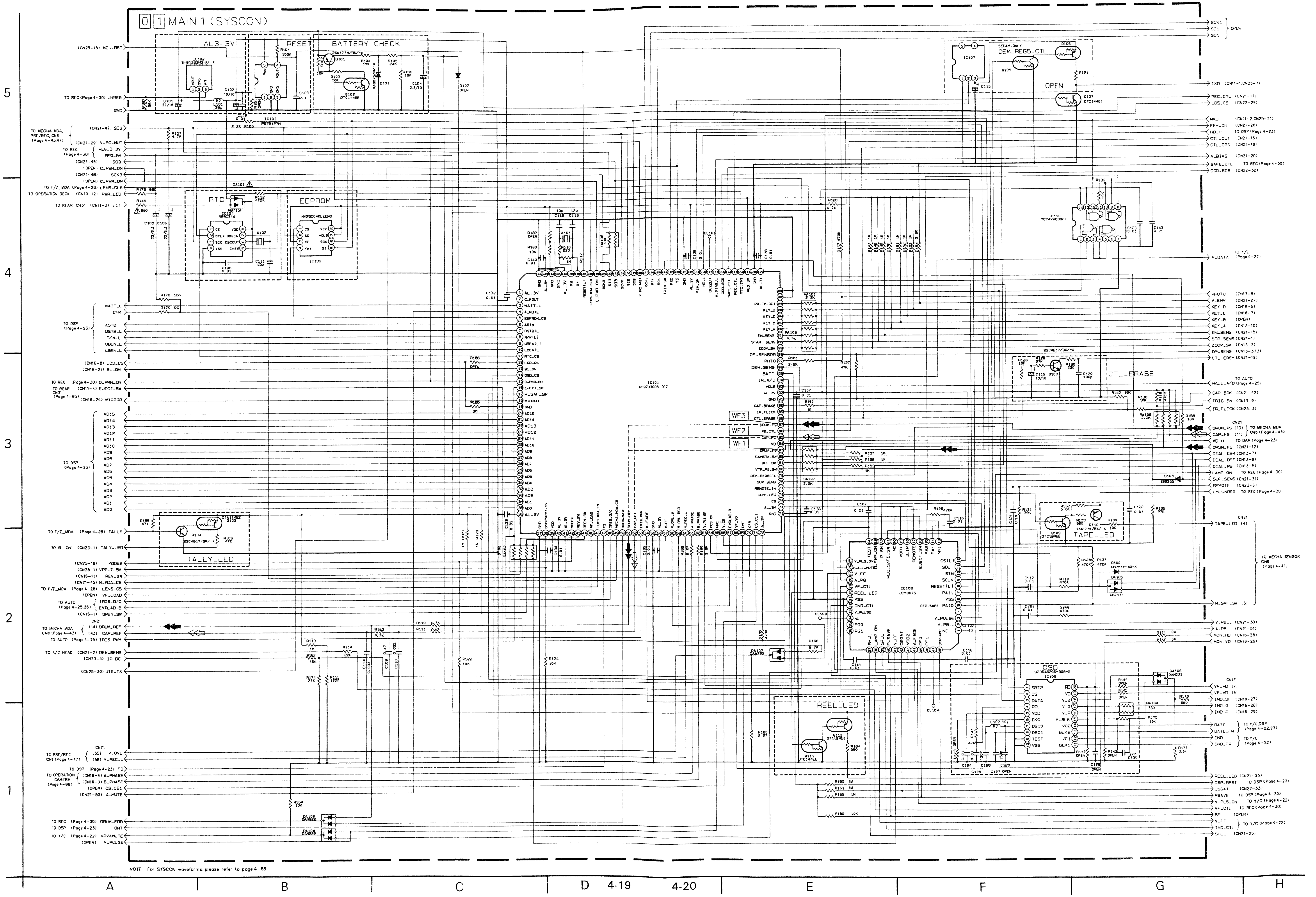


01 MAIN 1 (SYSCON)
IC104 RTC
CE
SIO
SCLK
OSCIN
SCOUT
X102 32.768KHz
R108
IC101
RTS_CS
SO2
SCK2
IC105 EEPROM
SCK
SI
SO
EEPROM_CS
IC108 SYSCON-SUB
SCLK
SIN
SOUT
SI2
V_FF
V_PB_L
V_PLS_ON
V_PULSE
R_SAF_SW
V_ALL_MUTE
TO Y/C
VPVA MUTE
DA104
CPU
VD
IC109 OSD
CS
DATA
SBT2
OSD_CS
SO3
SCK3
FROM MONITOR
MON_VD
MON_HD
CN16
HD
SI3
SO3
SCK3
MECHA_MDA_CS
FROM DEW_SENS
DEW_SENS
CN21
03 SENSOR
S1002
R_SAF_SW
SUP_SENS
Q1002
STR_SENS
Q1004
END_SENS
Q1003
CAP_FG
CAP_BRK
TO F/Z_MDA
LENS_MDA_CLK
FROM OPE (DECK)
CN13
TRIG_SW
CAP_REF
ZOOM_SW
05 REAR
EJECT_SW
CN11
03 SENSOR
IC1201
CTL AMP
CTL HEAD
A/C HEAD
CN7
CTL_HED_+
CTL_HED_−
PB_CTL
REC_CTL
X101 MAIN SYSTEM CLOCK (16MHz)
X1
X2
V_OVL_BCD
V_OVL_A
DA107
V_OVL
TO PRE/REC
03 SENSOR (MECHA MDA)
DRUM_REF
DRUM_FG
DRUM_PG
CN6
FROM ROTARY ENCODER UNIT
CAM_SW_A
CAM_SW_B
CAM_SW_C
CN2
S1001 CAS_SW
TUSENS
Q1001
C_SD
IC1601 I/O
SHIFT REGISTER
D0
D1
D2
D3
D4
D5
D6
D7
LATCH
C_F/R
C_MODE
C_TL
D_PG_SM
D_BRK
L_FIN
L_RIN
PW_SAVE
DOUT
DIN
CLK
CS
M_MDA_CS
REG 5V
R1619
C1625
R1617
R1618
R1615
R1614
DRIVE WAVE COMP
DRIVE SIGNAL LOGIC
DRIVE AMP
OSC
START TIMING
D_BRK
BRK
REF AMP
OFFSET CTL
QA1601
PG AMP
FG AMP
POWER SAVE
IC1601 DRUM
CN1
CENTER
D_COIL_U
D_COIL_V
D_COIL_W
D_FG−
D_PFG+
D_PG−
DRUM MOTOR
L_FWD
L_REV
CTL LOGIC
DRIVE AMP
IC1601 LOADING
CN4
LOAD_FWD
LOAD_REV
LM_UNREG
LOADING MOTOR
01 MAIN 1 (REG)
IC6001
D PWR ON
27~29
33~35
Q6010
DRUM POWER CTL
CTL (DRUM POWER)
DRUM_PWR
CP6002
CP
UNREG
CAP ERR
CAP_ERR
Q6009
CAPSTAN POWER CTL
CTL (CAPSTAN POWER)
CAP_PWR
CN3
FG−
FG+
FG AMP
BRK
QA1602
OFFSET CTL
C_TL
DC_FIX
REF AMP
CURRENT LIMITER
C_MODE
C_REF
ERROR DET
C_F/R
ROTATE DIRECTION
HG AMP
DRIVE SIGNAL LOGIC
DRIVE AMP
COIL_U
COIL_V
COIL_W
HG_U+
HG_U−
HG_V+
HG_V−
HG_W+
HG_W−
HG_BS+
HG_BS−
R1611
REG_5V
R1610
POWER SAVE
IC1601 CAPSTAN
CAPSTAN MOTOR
A
B
C
D
E
F
G
H
1
2
3
4
5

4.6 MONITOR BLOCK DIAGRAM


07 MONITOR
LCD MONITOR
IC7503 (INV)
IC7505 (TIMING GENERATOR)
SYNC IN
HDB IN
VD OUT
H OUT
POL
OEV1
STV 1
STV 2
CPH 1
CPH 2
CPH 3
QH
OEH
CPV
STH
STH2
VCOI
PD
CN73
OEV
CLK 1
CLK 2
CLK 3
Q2H
VGH
TO SYSCON
MON_VD
MON_HD
CN71
VR7502 COLOR LEVEL
NC
C7551,R7580
AGC FILTER
R7581,C7552 R7582
PIC
IC7504
IC7502 (RGB SIGNAL PROCESS)
TRAP
COMP
Y/C
AGC DET
AGC AMP
CLAM
PICTURE
FROM Y/C
MON_Y
R7530,R7531 C7519
LPF
REG 1
REG 2
REG 3
R7579 F_ADJ
ACC
HPF
COLOR
FROM Y/C
MON_R-Y
R7541,C7528
ACC FILTER
ACC DET
R7553,R7554 C7530,C7531
APC FILTER
APC
KILLER
TO SPEAKER
SPK_VR
SPK_SIG
A_GND
SPK -
SPK +
VR2401 SPEAKER VR
X7501 (4.433619MHz)
VCO
TINT
PHASE SHIFT
PAL SW
R7552
SPEAKER
CN74
DEMOD
R-Y
G-Y
B-Y
MATRIX
INT/EXT SW
SYNC SEP
BGP GEN
BGP
γ AMP
BRIGHT
INV
VCA
V REF
R OUT
G OUT
B OUT
IC7507
AMP
VR7508 HD (VCO)
VR7501 V COM
IC7501
V COM
V GL
3 inch DISPLAY
IDENT
F/F
C7520
R7534
KILLER FILTER
C7524
VR7510 CONTRAST
C7543 R7565,R7566
T1 PRESET
C7540 R7559,R7560
BL LIMITER
VR7504 WHITE BALANCE (B)
C7544 R7567,R7568
T2 PRESET
VR7506/VR7507 BRIGHT
VR7503 WHITE BALANCE (R)
REG_3.3V
VDD
REG_5V
VEE
QH SEL (IC7505 Pin 32)
Q7514
ES
Q7515
R7636
REG_-15V
UD
VSS
GND
FROM SYSCON
IND_C
IND_R
EXT_G_IN
EXT_R_IN
(FROM REG) LCD UNREG
REV_SW
SW7501
F7501
T7501
GND
FROM SYSCON
BL_ON
Q7503 Q7504
Q7516, Q7517
CTL
Q7501 Q7502
OSC
MIRROR
Q7513
TO BACK LIGHT
CN72
BL_GND
HV
A
B
C
D
E
F
G
H
5
4
3
2
1

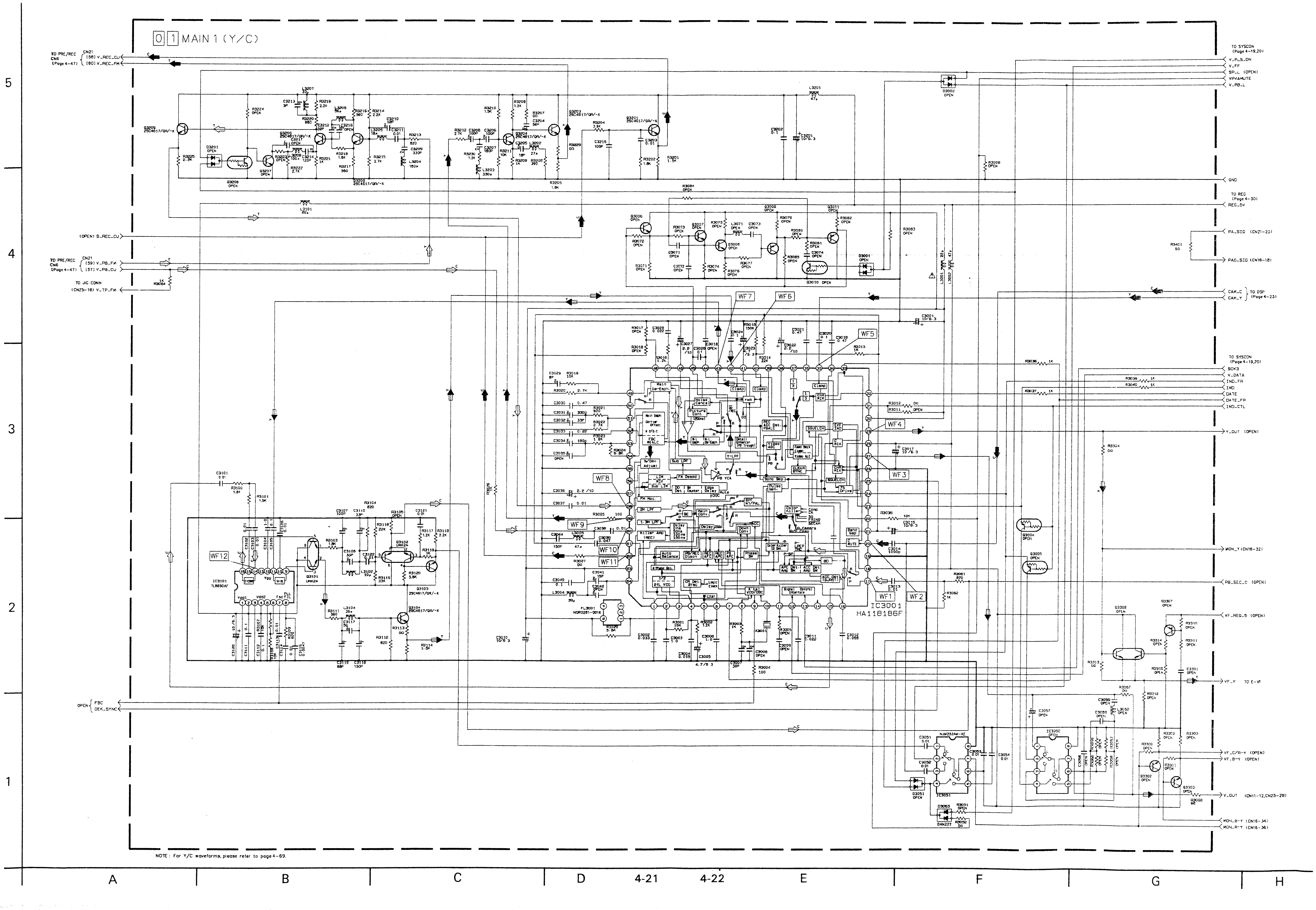
4.7 SYSCON SCHEMATIC DIAGRAM



0 1 MAIN 1 (SYSCON)
AL3.3V
RESET
BATTERY CHECK
RTC
EEPROM
TALLY_LED
REEL_LED
OSD
CTL_ERASE
TAPE_LED
OEM_REGS_CTL
OPEN
IC101
UPD703008-017
IC108
JCY0075
IC109
IC102
IC104
IC105
IC107
IC110
TC74VHC00FT
WF1
WF2
WF3
TO DSP (Page 4-23)
TO REG (Page 4-30)
TO MECHA MDA CN6 (Page 4-43)
TO MECHA SENSOR CN6 (Page 4-41)
TO F/Z_MDA (Page 4-28)
TO AUTO (Page 4-25)
TO Y/C (Page 4-22)
TO OPERATION CAMERA (Page 4-86)
TO PRE/REC CN6 (Page 4-47)
TO A/C HEAD
SCK1
SI1
SO1
TXD
RXD
MCU_RST
UNREG
GND
5
4
3
2
1
A
B
C
D
E
F
G
H

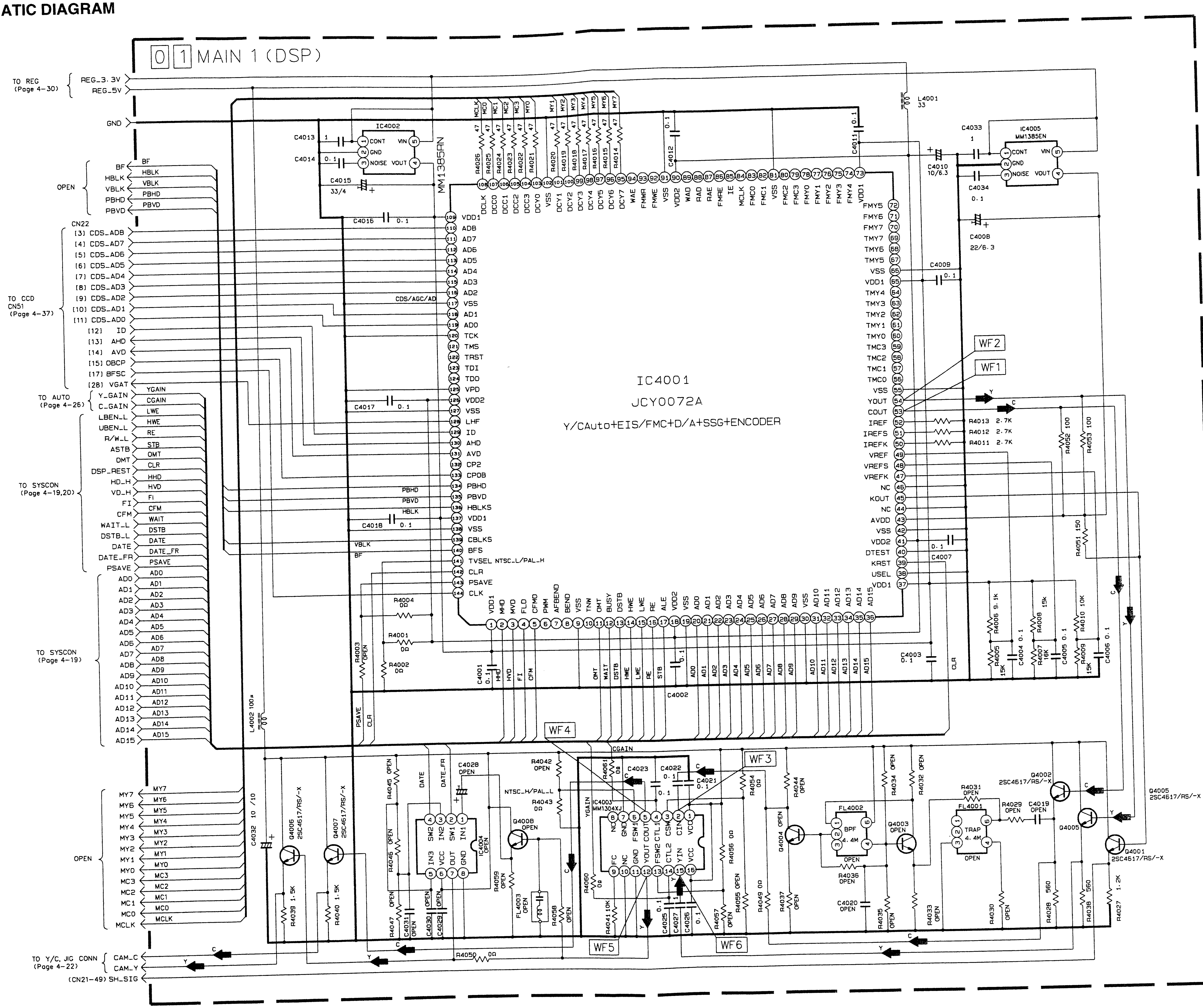
NOTE : For SYSCON waveforms, please refer to page 4-69

4.8 Y/C SCHEMATIC DIAGRAM


0 1 MAIN 1 (Y/C)
TO PRE/REC CN6 (Page 4-47)
CN21
[58] V_REC_CU
[60] V_REC_FM
(OPEN) S_REC_CU
[59] V_PB_FM
[57] V_PB_CU
TO JIG CONN
(CN25-18) V_TP_FM
R3064 1K
OPEN FSC
DEK_SYNC
TO SYSCON (Page 4-19,20)
V_PLS_ON
V_FF
SP_L (OPEN)
VPVAMUTE
V_PB_L
GND
TO REG (Page 4-30)
REG_5V
PA_SIG (CN21-23)
R3401 00
PAC_SIG (CN16-18)
CAM_C
CAM_Y
TO DSP (Page 4-23)
SCK3
V_DATA
IND_FR
IND
DATE
DATE_FR
IND_CTL
R3039 1K
R3040 1K
Y_OUT (OPEN)
MON_Y (CN16-32)
PB_SEC_C (OPEN)
VF_REG_5 (OPEN)
VF_Y TO E-VF
VF_C/R-Y (OPEN)
VF_B-Y (OPEN)
V_OUT (CN11-12,CN25-28)
MON_B-Y (CN16-34)
MON_R-Y (CN16-36)
Q3209 2SC4617/QR/-X
Q3206 2SC4617/QR/-X
Q3205 2SC4617/QR/-X
Q3204 2SC4617/QR/-X
Q3203 2SC4617/QR/-X
Q3201 2SC4617/QR/-X
Q3207 OPEN
Q3208 OPEN
D3201 OPEN
L3101 22µ
L3201 47µ
IC3001 HA118186F
IC3101 TL6830AF
Q3101 UMX2N
Q3102 UMX2N
Q3103 2SC4617/QR/-X
Q3104 2SC4617/QR/-X
FL3001 NQR0281-001X
IC3051 NJM2534M-XE
IC3052 OPEN
D3051 OPEN
D3052 OPEN
D3053 DAN222
D3001 OPEN
Q3010 OPEN
Q3004 OPEN
Q3005 OPEN
Q3302 OPEN
Q3303 OPEN
Q3307 OPEN
Q3308 OPEN
WF1
WF2
WF3
WF4
WF5
WF6
WF7
WF8
WF9
WF10
WF11
WF12
5
4
3
2
1
A
B
C
D
E
F
G
H

NOTE: For Y/C waveforms, please refer to page 4-69.

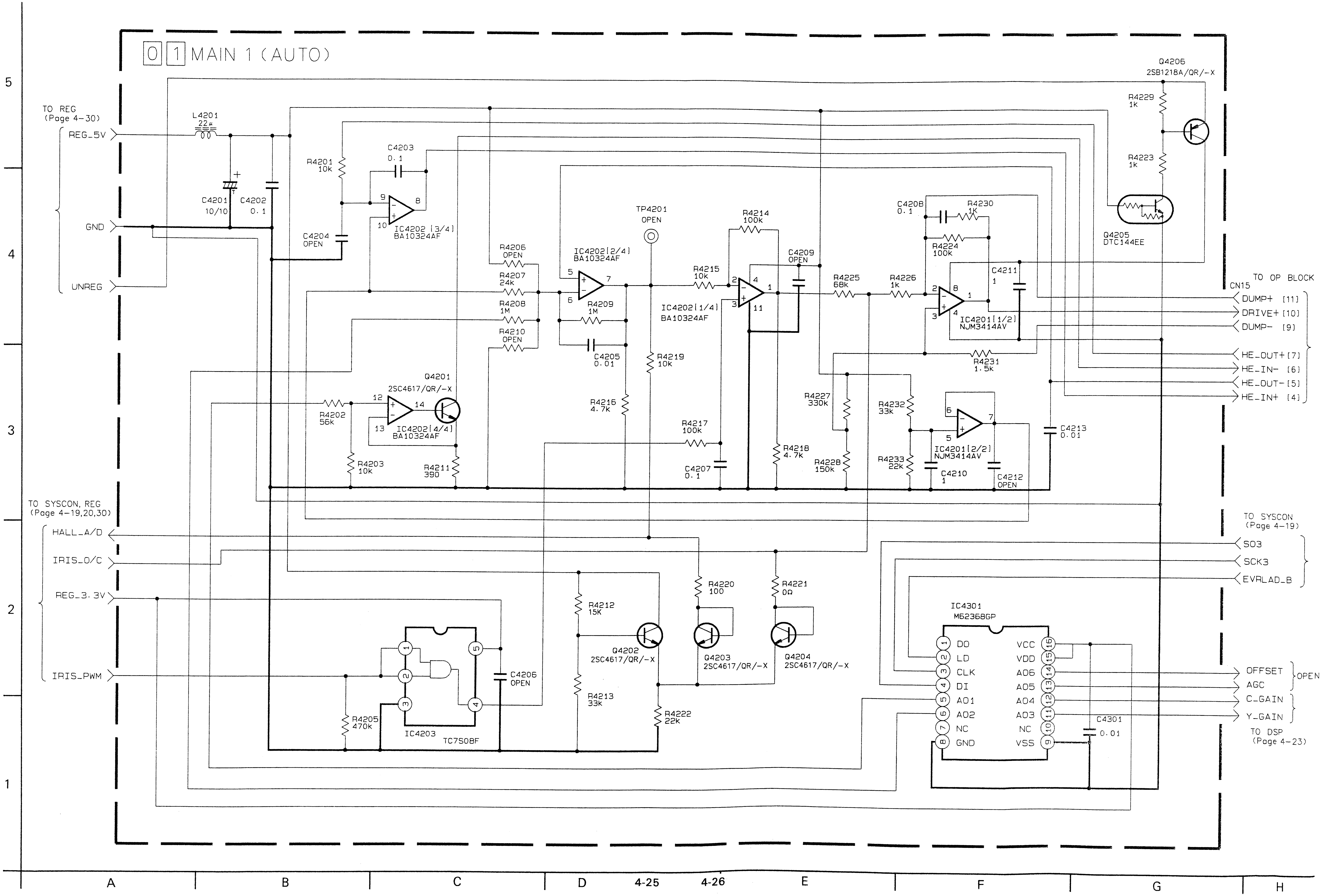
4.9 DSP SCHEMATIC DIAGRAM



01 MAIN 1 (DSP)
TO REG (Page 4-30)
REG_3.3V
REG_5V
GND
OPEN
BF
HBLK
VBLK
PBHD
PBVD
CN22
TO CCD CN51 (Page 4-37)
[3] CDS_AD8
[4] CDS_AD7
[5] CDS_AD6
[6] CDS_AD5
[7] CDS_AD4
[8] CDS_AD3
[9] CDS_AD2
[10] CDS_AD1
[11] CDS_AD0
[12] ID
[13] AHD
[14] AVD
[15] OBCP
[17] BFSC
[28] VGAT
TO AUTO (Page 4-26)
Y_GAIN
C_GAIN
TO SYSCON (Page 4-19,20)
LBEN_L
UBEN_L
R/W_L
ASTB
OMT
DSP_REST
HD_H
VD_H
FI
CFM
WAIT_L
DSTB_L
DATE
DATE_FR
PSAVE
TO SYSCON (Page 4-19)
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
AD8
AD9
AD10
AD11
AD12
AD13
AD14
AD15
MY7
MY6
MY5
MY4
MY3
MY2
MY1
MY0
MC3
MC2
MC1
MC0
MCLK
TO Y/C, JIG CONN (Page 4-22)
CAM_C
CAM_Y
(CN21-49) SH_SIG
IC4001
JCY0072A
Y/CAuto+EIS/FMC+D/A+SSG+ENCODER
IC4002
MM1385AN
CONT
GND
NOISE
VIN
VOUT
C4013 1
C4014 0.1
C4015 33/4
C4016 0.1
C4017 0.1
C4018 0.1
CDS/AGC/AD
IC4005
MM1385EN
C4033 1
C4034 0.1
C4010 10/6.3
C4008 22/6.3
C4009 0.1
C4011 0.1
C4012 0.1
L4001 33
L4002 100µ
R4026
R4025
R4024
R4023
R4022
R4021
R4020
R4019
R4018
R4017
R4016
R4015
R4014
47
DCLK
DCC0
DCC1
DCC2
DCC3
DCY0
VSS
DCY1
DCY2
DCY3
DCY4
DCY5
DCY6
DCY7
WAE
FMWR
FMWE
VDD2
WAD
RAD
RAE
FMRE
IE
MCLK
FMC0
FMC1
FMC2
FMC3
FMY0
FMY1
FMY2
FMY3
FMY4
VDD1
FMY5
FMY6
FMY7
TMY7
TMY6
TMY5
TMY4
TMY3
TMY2
TMY1
TMY0
TMC3
TMC2
TMC1
TMC0
YOUT
COUT
IREF
IREFS
IREFK
VREF
VREFS
VREFK
NC
KOUT
AVDD
DTEST
KRST
USEL
WF1
WF2
WF3
WF4
WF5
WF6
R4013 2.7K
R4012 2.7K
R4011 2.7K
R4052 100
R4053 100
R4051 150
C4007 0.1
VPD
LHF
ID
AHD
AVD
CP2
CPOB
PBHD
PBVD
HBLKS
CBLKS
BFS
TVSEL NTSC_L/PAL_H
CLR
PSAVE
CLK
TCK
TMS
TRST
TDI
TDO
HVD
FLD
CFMD
PWM
AFBEND
BEND
TNW
OMT
BUSY
DSTB
HWE
LWE
RE
ALE
R4004 0Ω
R4001 0Ω
R4002 0Ω
R4003 OPEN
C4001 0.1
C4002
C4003 0.1
R4005 15K
R4006 9.1K
C4004 0.1
R4007 16K
R4008 15K
C4005 0.1
R4009 15K
R4010 10K
C4006 0.1
CGAIN
YGAIN
IC4003 MM1304XJ
FC
FSW1
FSW2
CTL1
CTL2
CSW
CIN
COUT
YIN
VCC
IC4004 OPEN
SW1
SW2
IN1
IN2
IN3
OUT
C4028 OPEN
R4042 OPEN
R4043 0Ω
NTSC_H/PAL_L
Q4008 OPEN
Q4006 2SC4517/RS/-X
Q4007 2SC4517/RS/-X
C4032 10/10
R4039 1.5K
R4040 1.5K
R4045 OPEN
R4046 OPEN
R4047 OPEN
C4031 OPEN
C4030 OPEN
C4029 OPEN
R4059 OPEN
FL4003 OPEN
R4058 OPEN
R4050 0Ω
R4060 0Ω
R4061 0Ω
R4041 10K
C4023
C4022 0.1
C4021 0.1
C4025 0.1
C4026 0.1
R4057 OPEN
R4054 0Ω
R4056 0Ω
R4055 OPEN
R4049 0Ω
R4044 OPEN
R4037 OPEN
Q4004 OPEN
FL4002
BPF 4.4M
R4036 OPEN
C4020 OPEN
Q4003 OPEN
R4034 OPEN
R4032 OPEN
R4035 OPEN
R4033 OPEN
R4031 OPEN
FL4001
TRAP 4.4M
R4029 OPEN
C4019 OPEN
R4030 OPEN
Q4002 2SC4517/RS/-X
Q4005 2SC4517/RS/-X
Q4001 2SC4517/RS/-X
R4028 560
R4038 560
R4027 1.2K
Y
C
5
4
3
2
1
B
C
D
E
F
G
H

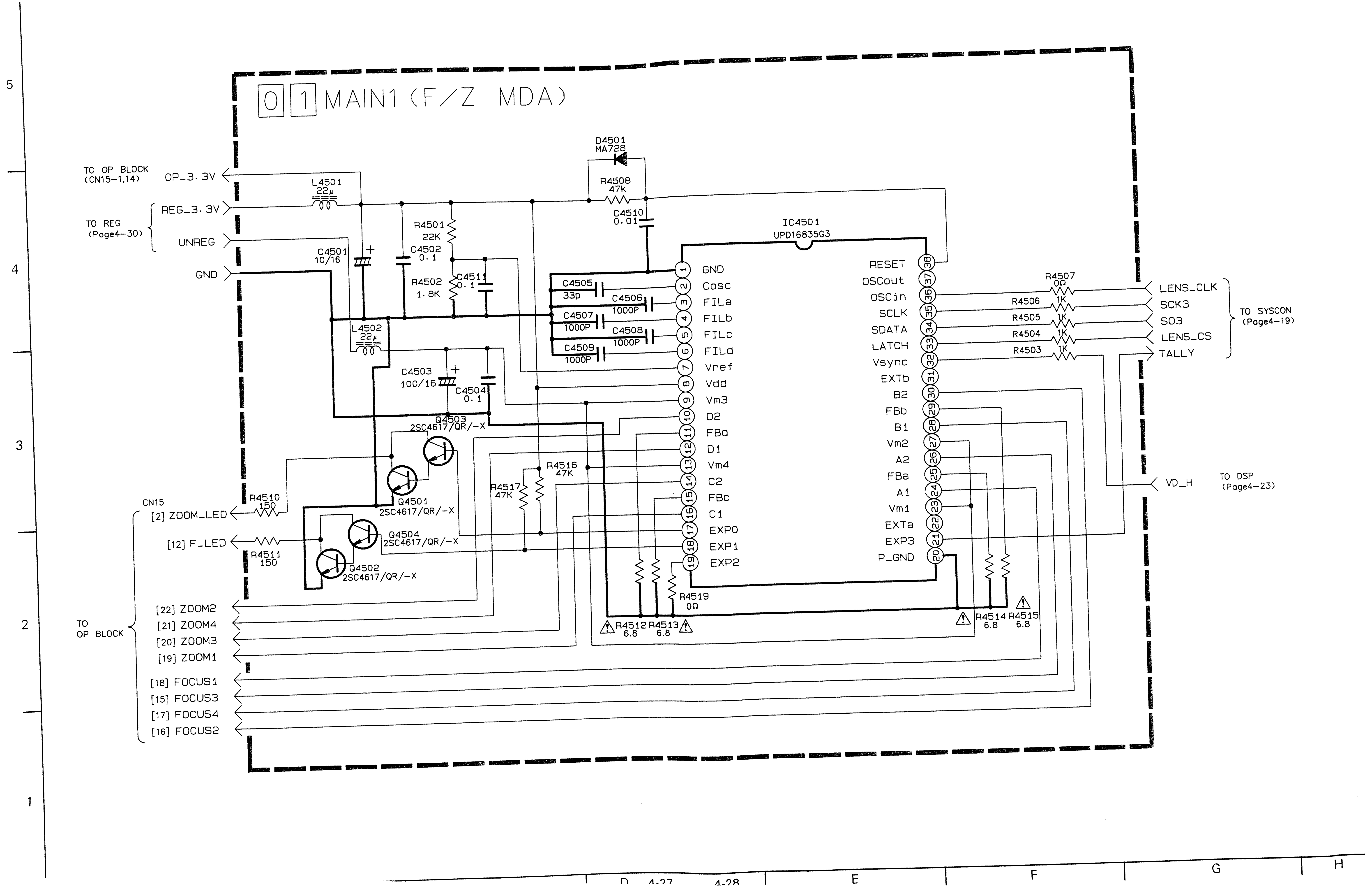
NOTE : For DSP waveforms, please refer to page 4-69.

4.10 AUTO SCHEMATIC DIAGRAM

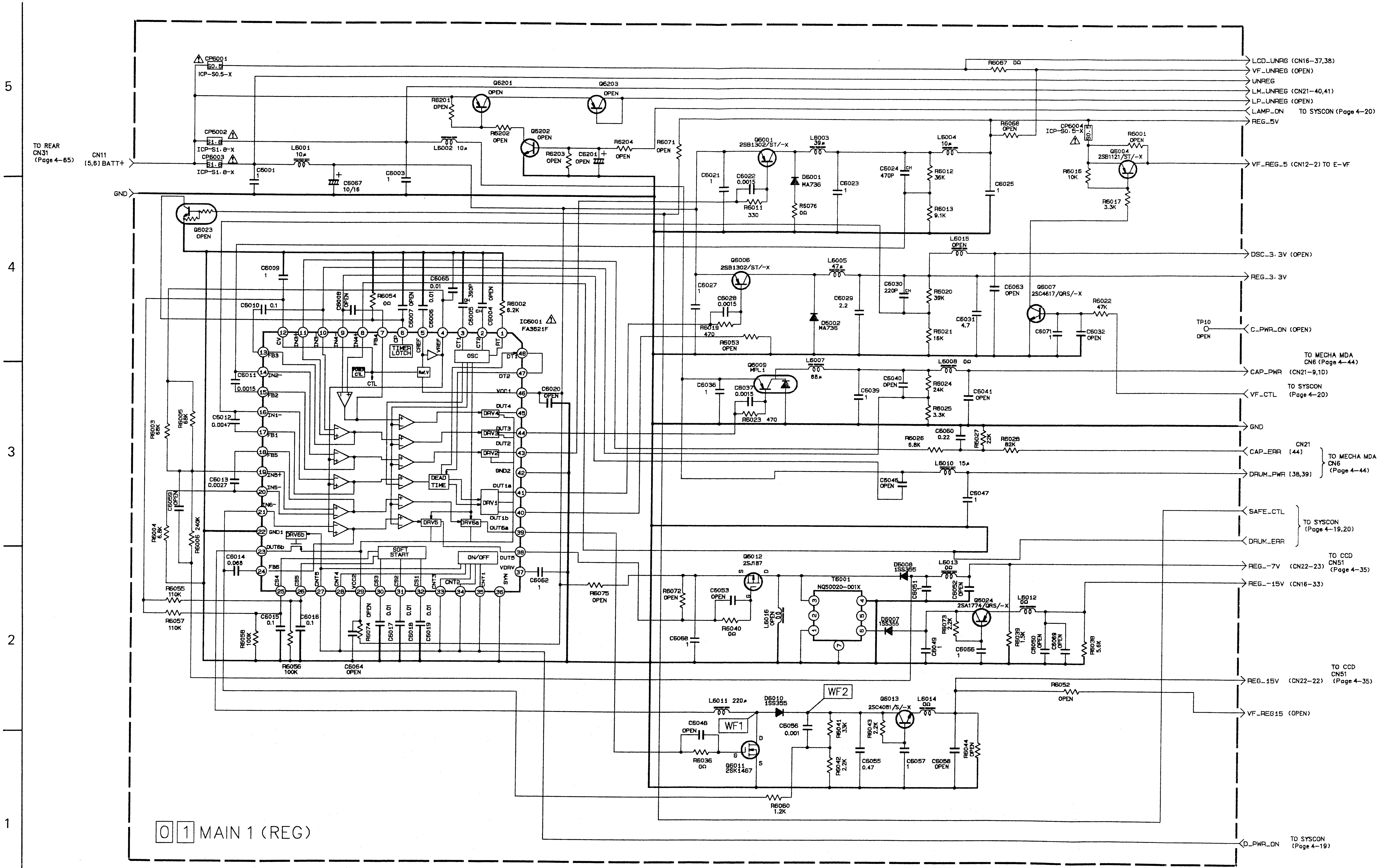


01 MAIN 1 (AUTO)
TO REG (Page 4-30)
REG_5V
GND
UNREG
L4201 22µ
C4201 10/10
C4202 0.1
R4201 10k
C4203 0.1
C4204 OPEN
IC4202 [3/4] BA10324AF
R4206 OPEN
R4207 24k
R4208 1M
R4210 OPEN
IC4202 [2/4] BA10324AF
R4209 1M
C4205 0.01
TP4201 OPEN
R4215 10k
R4214 100k
IC4202 [1/4] BA10324AF
C4209 OPEN
R4219 10k
R4216 4.7k
R4217 100k
C4207 0.1
R4218 4.7k
Q4201 2SC4617/QR/-X
IC4202 [4/4] BA10324AF
R4202 56k
R4203 10k
R4211 390
R4225 68k
R4226 1k
C4208 0.1
R4230 1k
R4224 100k
C4211 1
IC4201 [1/2] NJM3414AV
R4231 1.5k
R4227 330k
R4228 150k
R4232 33k
R4233 22k
IC4201 [2/2] NJM3414AV
C4210 1
C4212 OPEN
C4213 0.01
Q4206 2SB1218A/QR/-X
R4229 1k
R4223 1k
Q4205 DTC144EE
TO OP BLOCK
CN15
DUMP+ [11]
DRIVE+ [10]
DUMP- [9]
HE_OUT+ [7]
HE_IN- [6]
HE_OUT- [5]
HE_IN+ [4]
TO SYSCON, REG (Page 4-19,20,30)
HALL_A/D
IRIS_O/C
REG_3.3V
IRIS_PWM
IC4203 TC7S08F
C4206 OPEN
R4205 470k
R4212 15K
R4213 33k
Q4202 2SC4617/QR/-X
R4222 22k
R4220 100
Q4203 2SC4617/QR/-X
R4221 0Ω
Q4204 2SC4617/QR/-X
TO SYSCON (Page 4-19)
SO3
SCK3
EVRLAD_B
IC4301 M62368GP
DO
LD
CLK
DI
AO1
AO2
NC
GND
VCC
VDD
AO6
AO5
AO4
AO3
NC
VSS
C4301 0.01
OFFSET
AGC
OPEN
C_GAIN
Y_GAIN
TO DSP (Page 4-23)
A
B
C
D
E
F
G
H
1
2
3
4
5

4.11 F/Z MDA SCHEMATIC DIAGRAM


01 MAIN1 (F/Z MDA)
TO OP BLOCK (CN15-1,14)
OP_3.3V
TO REG (Page4-30)
REG_3.3V
UNREG
GND
L4501 22µ
C4501 10/16
C4502 0.1
R4501 22K
R4502 1.8K
C4511 0.1
D4501 MA728
R4508 47K
C4510 0.01
IC4501 UPD16835G3
C4505 33p
C4506 1000P
C4507 1000P
C4508 1000P
C4509 1000P
L4502 22µ
C4503 100/16
C4504 0.1
Q4503 2SC4617/QR/-X
Q4501 2SC4617/QR/-X
Q4504 2SC4617/QR/-X
Q4502 2SC4617/QR/-X
R4510 150
R4511 150
R4516 47K
R4517 47K
R4519 0Ω
R4512 6.8
R4513 6.8
R4514 6.8
R4515 6.8
R4507 0Ω
R4506 1K
R4505 1K
R4504 1K
R4503 1K
1 GND
2 Cosc
3 FILa
4 FILb
5 FILc
6 FILd
7 Vref
8 Vdd
9 Vm3
10 D2
11 FBd
12 D1
13 Vm4
14 C2
15 FBc
16 C1
17 EXP0
18 EXP1
19 EXP2
38 RESET
37 OSCout
36 OSCin
35 SCLK
34 SDATA
33 LATCH
32 Vsync
31 EXTb
30 B2
29 FBb
28 B1
27 Vm2
26 A2
25 FBa
24 A1
23 Vm1
22 EXTa
21 EXP3
20 P_GND
LENS_CLK
SCK3
SO3
LENS_CS
TALLY
TO SYSCON (Page4-19)
VD_H
TO DSP (Page4-23)
CN15
[2] ZOOM_LED
[12] F_LED
TO OP BLOCK
[22] ZOOM2
[21] ZOOM4
[20] ZOOM3
[19] ZOOM1
[18] FOCUS1
[15] FOCUS3
[17] FOCUS4
[16] FOCUS2
5
4
3
2
1
D
E
F
G
H

4.12 REGULATOR SCHEMATIC DIAGRAM

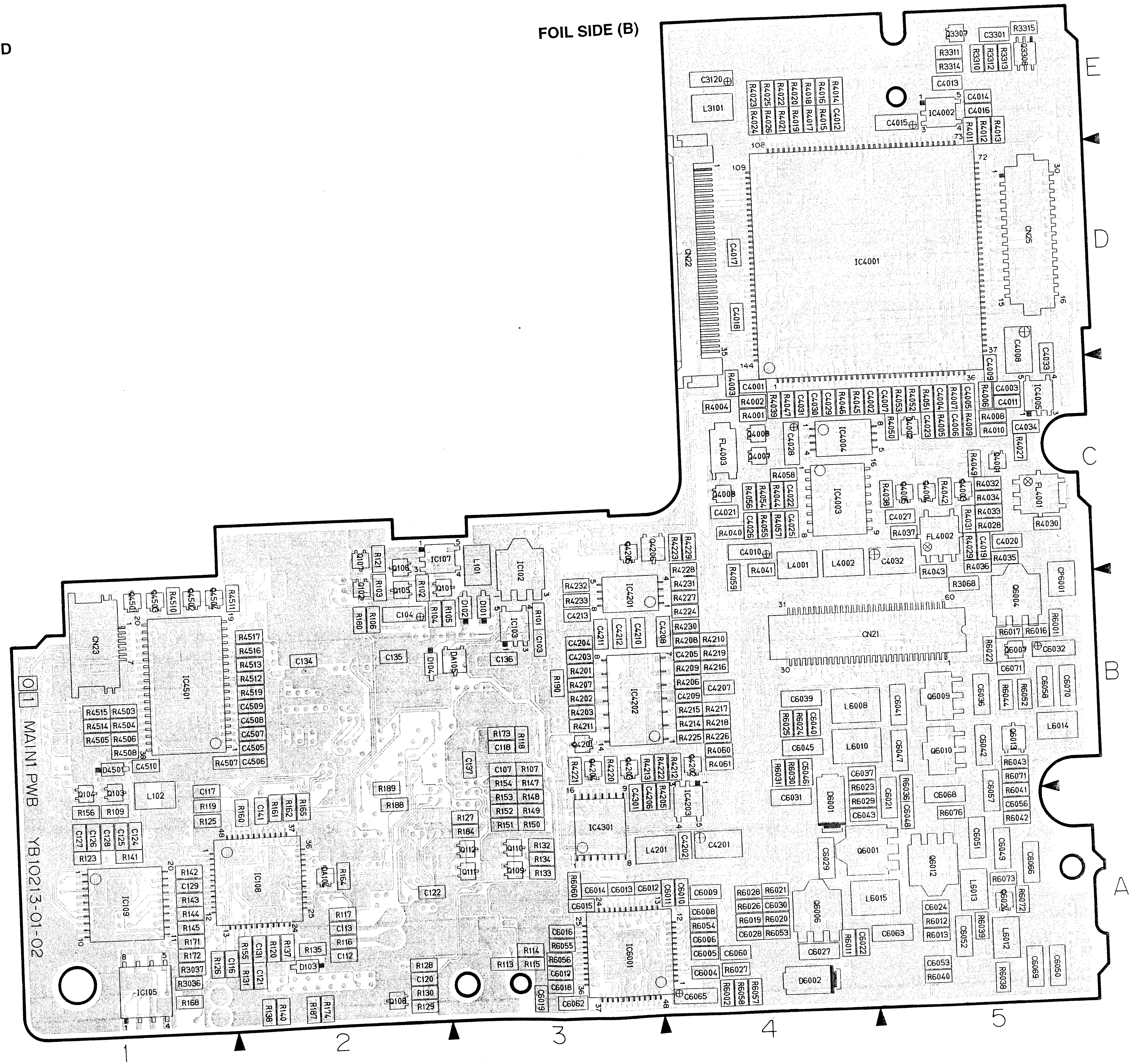

5
4
3
2
1
TO REAR CN31 (Page 4-65)
CN11 [5,6] BATT+
GND
CP6001 S0.5 ICP-S0.5-X
CP6002 S1.6 ICP-S1.6-X
CP6003 S1.6 ICP-S1.6-X
C6001 1
L6001 10μ
C6067 10/16
C6003 1
L6002 10μ
Q6201 OPEN
Q6203 OPEN
R6201 OPEN
R6202 OPEN
Q6202 OPEN
R6203 OPEN
C6201 OPEN
R6204 OPEN
R6071 OPEN
R6067 0Ω
Q6001 2SB1302/ST/-X
L6003 39μ
C6021 1
C6022 0.0015
R6011 330
D6001 MA736
R6076 0Ω
C6023 1
L6004 10μ
C6024 470P CH
R6012 36K
R6013 9.1K
C6025 1
R6068 OPEN
CP6004 ICP-S0.5-X S0.5
R6001 OPEN
Q6004 2SB1121/ST/-X
R6016 10K
R6017 3.3K
Q6023 OPEN
L6015 OPEN
Q6006 2SB1302/ST/-X
L6005 47μ
C6027 1
C6028 0.0015
R6019 470
R6053 OPEN
D6002 MA736
C6029 2.2
C6030 220P CH
R6020 39K
R6021 15K
C6031 4.7
C6063 OPEN
Q6007 2SC4617/QRS/-X
R6022 47K
C6071 1
C6032 OPEN
TP10 OPEN
Q6009 MPL1
L6007 68μ
C6036 1
C6037 0.0015
R6023 470
C6039 1
C6040 OPEN
L6008 0Ω
R6024 24K
R6025 3.3K
C6041 OPEN
C6060 0.22
R6026 6.8K
R6027 22K
R6028 82K
L6010 15μ
C6046 OPEN
C6047 1
C6009 1
C6010 0.1
C6008 OPEN
R6054 0Ω
C6065 0.01
C6007 OPEN
C6006 0.01
C6005 390P CH
C6004 OPEN
R6002 8.2K
IC6001 FA3621F
C6011 0.0015
C6012 0.0047
C6013 0.0027
C6020 OPEN
C6059 OPEN
R6003 68K
R6005 68K
R6004 6.8K
R6006 240K
C6014 0.068
C6062 1
R6055 110K
R6057 110K
C6015 0.1
C6016 0.1
R6058 100K
R6056 100K
R6074 OPEN
C6017 0.01
C6018 0.01
C6019 0.01
C6064 OPEN
R6075 OPEN
CV IN3H IN3L IN4 IN4H FB4 CP CREF VREF CT1 CT2 RT
FB3 IN2- FB2 IN1- FB1 FB5 IN5+ IN5- IN6- GND1 OUT6b FB6
TIMER LATCH
OSC
Ref.V
POWER CTL
CTL
DT1 DT2 VCC1
OUT4 OUT3 OUT2 GND2 OUT1a OUT1b OUT6a OUT5 VDRV
DRV4 DRV3 DRV2 DRV1 DRV5 DRV6a DRV6b
DEAD TIME
SOFT START
ON/OFF
CS4 CS5 CNT5 CNT4 VCC2 CS3 CS2 CS1 CNT3 CNT2 CNT1 SYN
Q6012 2SJ187
R6072 OPEN
C6053 OPEN
R6040 0Ω
C6068 1
L6016 OPEN
T6001 NQS0020-001X
D6008 1SS355
D6007 1SS355
L6013 0Ω
C6051 OPEN
C6052 OPEN
Q6024 2SA1774/QRS/-X
L6012 0Ω
R6073 2.2K
C6049 1
C6066 1
R6039 1.5K
C6050 OPEN
C6069 OPEN
R6038 5.6K
L6011 220μ
D6010 1SS355
WF2
WF1
C6048 OPEN
R6036 0Ω
Q6011 2SK1467
C6056 0.001
R6041 3.3K
R6042 2.2K
R6043 2.2K
Q6013 2SC4081/S/-X
L6014 0Ω
C6055 0.47
C6057 1
C6058 OPEN
R6044 OPEN
R6052 OPEN
R6050 1.2K
LCD_UNRG (CN16-37,38)
VF_UNREG (OPEN)
UNREG
LM_UNREG (CN21-40,41)
LP_UNREG (OPEN)
LAMP_ON TO SYSCON (Page 4-20)
REG_5V
VF_REG_5 (CN12-2) TO E-VF
DSC_3.3V (OPEN)
REG_3.3V
C_PWR_ON (OPEN)
TO MECHA MDA CN6 (Page 4-44)
CAP_PWR (CN21-9,10)
TO SYSCON (Page 4-20)
VF_CTL
GND
CN21
CAP_ERR [44]
DRUM_PWR [38,39]
TO MECHA MDA CN6 (Page 4-44)
SAFE_CTL
DRUM_ERR
TO SYSCON (Page 4-19,20)
TO CCD CN51 (Page 4-35)
REG_-7V (CN22-23)
REG_-15V (CN16-33)
TO CCD CN51 (Page 4-35)
REG_15V (CN22-22)
VF_REG15 (OPEN)
D_PWR_ON
TO SYSCON (Page 4-19)
0 1 MAIN 1 (REG)

NOTE: For REG waveforms, please refer to page 4-69.

A
B
C
D
E
F
G
H

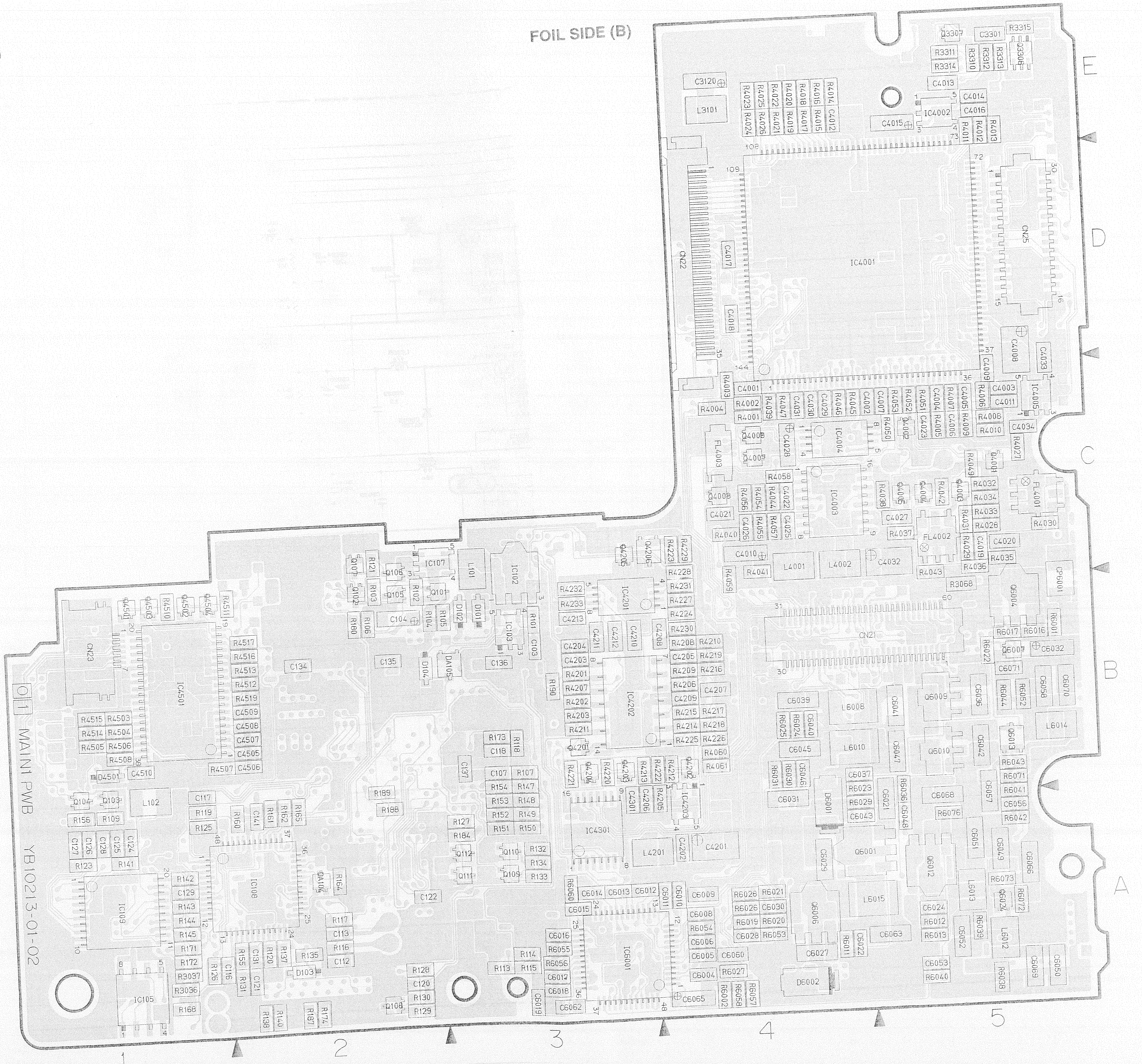
MAIN1 CIRCUIT BOARD

FOIL SIDE (B)


A
B
C
D
E
1
2
3
4
5
MAIN1 PWB YB10213-01-02
01
IC4001
IC4002
IC4003
IC4004
IC4005
IC4201
IC4202
IC4203
IC4301
IC6001
IC4501
IC101
IC102
IC103
IC105
IC107
IC108
IC109
CN21
CN22
CN23
CN25
CP6001
FL4001
FL4002
FL4003
L3101
L4001
L4002
L4201
L6008
L6010
L6012
L6013
L6014
L6015
L101
L102
D6001
D6002
D4501
D101
D102
D103
D104
DA105
DA104
Q6001
Q6004
Q6006
Q6007
Q6009
Q6010
Q6012
Q6013
Q3307
Q3308
Q4001
Q4002
Q4004
Q4005
Q4006
Q4007
Q4008
Q4201
Q4202
Q4203
Q4204
Q4205
Q4206
Q4207
Q4501
Q4502
Q4503
Q4504
Q101
Q102
Q103
Q104
Q105
Q106
Q107
Q108
Q109
Q110
Q111
Q112
C3120
C3301
C4013
C4014
C4015
C4016
C4017
C4018
C4008
C4033
C4032
C4010
C4020
C4021
C4027
C4028
C4034
C4201
C4202
C4207
C104
C134
C135
C136
C137
C122
R3068
R3315
R4004
R4041
R4059
R4030
R4035
R4043
R189
R188
R190

MAIN1 CIRCUIT BOARD

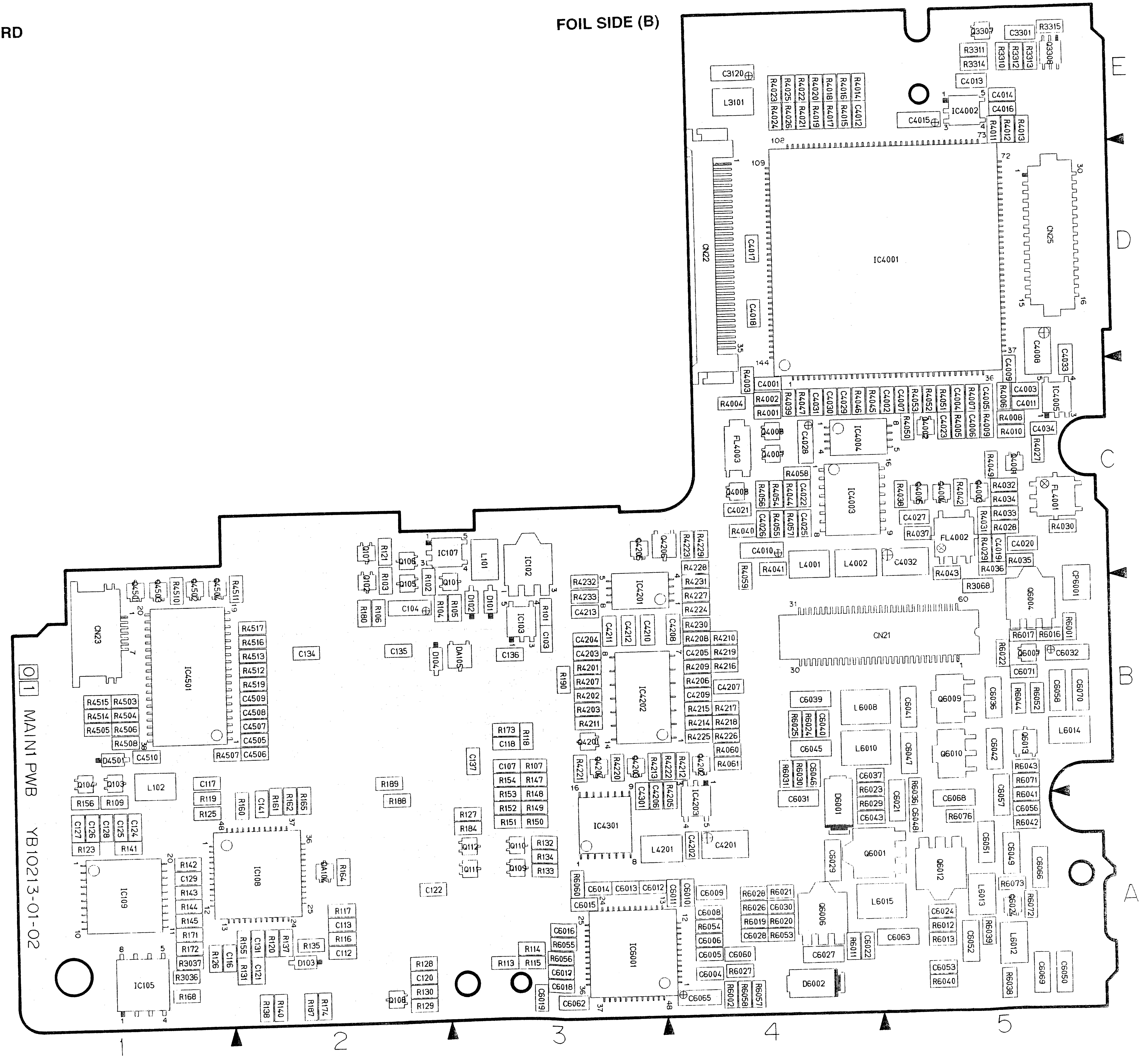
FOIL SIDE (B)



MAIN1 PWB
YB10213-01-02
IC4001
IC4002
IC4003
IC4004
IC4005
IC4201
IC4202
IC4203
IC4301
IC4501
IC6001
IC101
IC102
IC103
IC105
IC107
IC108
IC109
CN21
CN22
CN23
CN25
CP6001
L3101
L4001
L4002
L4201
L6008
L6010
L6013
L6014
L6015
L101
L102
FL4001
FL4002
FL4003
D6001
D6002
D4501
D101
D102
D103
D104
DA104
DA105
Q6001
Q6004
Q6006
Q6009
Q6010
Q6012
Q3306
Q3307
C3120
C3301
C4032
C4201
C4008
C4033
R3315
A
B
C
D
E
1
2
3
4
5

4.13 MAIN1 CIRCUIT BOARD

FOIL SIDE (B)


MAIN1 PWB
YB10213-01-02
E
D
C
B
A
1
2
3
4
5
IC4001
IC4002
IC4003
IC4004
IC4005
IC4201
IC4202
IC4203
IC4301
IC4501
IC6001
IC101
IC102
IC103
IC105
IC108
IC109
CN21
CN22
CN23
CN25
CP6001
FL4001
FL4002
FL4003
L101
L102
L3101
L4001
L4002
L4201
L6008
L6010
L6012
L6013
L6014
L6015
Q6001
Q6004
Q6006
Q6009
Q6010
Q6012
D6001
D6002
C3120
C3301
C4008
C4017
C4018
C4032
C4033
C4201
C6027
C6063
C134
C135
C136
C137
C122

COMPONENT PARTS LOCATION GUIDE (MAIN1)

REF.No.	LOCATION		
CAPACITOR			
C101	A	C	3C
C102	A	C	3B
C103	B	C	3B
C104	B	C	2B
C105	A	C	3A
C106	A	C	3A
C107	B	C	3B
C108	A	C	1A
C109	A	C	2C
C110	A	C	2C
C111	A	C	1A
C112	B	C	2A
C113	B	C	2A
C114	A	C	2C
C115	A	C	2C
C116	B	C	1A
C117	B	C	1B
C118	B	C	3B
C119	A	C	2A
C120	B	C	2A
C121	B	C	2A
C122	B	C	2A
C123	A	C	2A
C124	B	C	1A
C125	B	C	1A
C126	B	C	1A
C127	B	C	1A
C128	B	C	1A
C129	B	C	1A
C130	A	C	1A
C131	B	C	2A
C132	A	C	2A
C133	A	C	2B
C134	B	C	2B
C135	B	C	2B
C136	B	C	3B
C137	B	C	3B
C138	A	C	3A
C139	A	C	2A
C140	A	C	2A
C141	B	C	2B
C142	A	C	3C
C143	A	C	2A
C3001	A	C	3A
C3002	A	C	4C
C3003	A	C	4C
C3004	A	C	4C
C3005	A	C	4C
C3006	A	C	4C
C3007	A	C	4C
C3008	A	C	4C
C3009	A	C	4C
C3010	A	C	5C
C3011	A	C	4C
C3012	A	C	4C
C3013	A	C	4C
C3014	A	C	4C
C3015	A	C	4D
C3017	A	C	4D
C3018	A	C	5D
C3019	A	C	4D
C3020	A	C	4D
C3021	A	C	4D
C3022	A	C	4D
C3023	A	C	4D
C3024	A	C	5D
C3026	A	C	5D
C3027	A	C	5D
C3028	A	C	5D
C3029	A	C	5D
C3030	A	C	5D
C3031	A	C	5D
C3032	A	C	5D
C3033	A	C	5D
C3034	A	C	5D
C3035	A	C	5C
C3036	A	C	5D
C3037	A	C	5C
C3038	A	C	5C
C3039	A	C	5C
C3040	A	C	5C
C3041	A	C	5C
C3042	A	C	5C
C3044	A	C	5C
C3051	A	C	3B
C3052	A	C	3B
C3053	A	C	3B
C3054	A	C	3B
C3056	A	C	3B
C3057	A	C	4B
C3058	A	C	4B
C3059	A	C	4B
C3071	A	C	5D
C3072	A	C	5D
C3073	A	C	5D
C3074	A	C	5D
C3101	A	C	4D
C3102	A	C	4D
C3103	A	C	4D
C3104	A	C	4D
C3105	A	C	4D
C3106	A	C	4D
C3107	A	C	4E
C3108	A	C	5E
C3110	A	C	5E
C3111	A	C	4E
C3112	A	C	4E
C3113	A	C	4E
C3114	A	C	4E
C3115	A	C	4E
C3116	A	C	5E
C3117	A	C	5E
C3118	A	C	5E
C3120	B	C	4E
C3121	A	C	5E
C3122	A	C	5D
C3201	A	C	4A
C3202	A	C	4B
C3203	A	C	4C
C3204	A	C	4B
C3205	A	C	3B
C3206	A	C	4C
C3207	A	C	4C
C3208	A	C	4C
C3209	A	C	4C
C3210	A	C	4C
C3211	A	C	4C
C3212	A	C	5C
C3213	A	C	5C
C3214	A	C	5C
C3215	A	C	4C
C3216	A	C	5C
C3217	A	C	5C
C3301	B	C	5E
C4001	B	C	4C
C4002	B	C	5C
C4003	B	C	5C
C4004	B	C	5C
C4005	B	C	5C
C4006	B	C	5C
C4007	B	C	5C
C4008	B	C	5D
C4009	B	C	5C
C4010	B	C	4C
C4011	B	C	5C
C4012	B	C	4E
C4013	B	C	5E
C4014	B	C	5E
C4015	B	C	5E
C4016	B	C	5E
C4017	B	C	4D
C4018	B	C	4D
C4019	B	C	5C
C4020	B	C	5C
C4021	B	C	4C
C4022	B	C	4C
C4023	B	C	5C
C4025	B	C	4C
C4026	B	C	4C
C4027	B	C	5C
C4028	B	C	4C
C4029	B	C	4C
C4030	B	C	4C
C4031	B	C	4C
C4032	B	C	5C
C4033	B	C	5C
C4034	B	C	5C
C4201	B	C	4A
C4202	B	C	4A
C4203	B	C	3B
C4204	B	C	3B
C4205	B	C	4B
C4206	B	C	3B
C4207	B	C	4B
C4208	B	C	4B
C4209	B	C	4B
C4210	B	C	3B
C4211	B	C	3B
C4212	B	C	3B
C4213	B	C	3B
C4301	B	C	3B
C4501	A	C	2B
C4502	A	C	2B
C4503	A	C	1B
C4504	A	C	2B
C4505	B	C	2B
C4506	B	C	2B
C4507	B	C	2B
C4508	B	C	2B
C4509	B	C	2B
C4510	B	C	1B
C4511	A	C	2B
C6001	A	C	5B
C6003	A	C	5B
C6004	B	C	4A
C6005	B	C	4A
C6006	B	C	4A
C6007	A	C	3A
C6008	B	C	4A
C6009	B	C	4A
C6010	B	C	4A
C6011	B	C	4A
C6012	B	C	3A
C6013	B	C	3A
C6014	B	C	3A
C6015	B	C	3A
C6016	B	C	3A
C6017	B	C	3A
C6018	B	C	3A
C6019	B	C	3A
C6020	A	C	3A
C6021	B	C	5A
C6022	B	C	4A
C6023	A	C	5A
C6024	B	C	5A
C6025	A	C	5A
C6027	B	C	4A
C6028	B	C	4A
C6029	B	C	4A
C6030	B	C	4A
C6031	B	C	4A
C6032	B	C	5B
C6036	B	C	5B
C6037	B	C	4B
C6039	B	C	4B
C6040	B	C	4B
C6041	B	C	5B
C6042	B	C	5B
C6043	B	C	4A
C6045	B	C	4B
C6046	B	C	4B
C6047	B	C	5B
C6048	B	C	5A
C6049	B	C	5A
C6050	B	C	5A
C6051	B	C	5A
C6052	B	C	5A
C6053	B	C	5A
C6055	A	C	4B
C6056	B	C	5A
C6057	B	C	5A
C6058	B	C	5B
C6059	A	C	3A
C6060	B	C	4A
C6061	A	C	4A
C6062	B	C	3A
C6063	B	C	5A
C6064	A	C	3A
C6065	B	C	4A
C6066	B	C	5A
C6067	A	C	5A
C6068	B	C	5A
C6069	B	C	5A
C6070	B	C	5B
C6071	B	C	5B
C6201	A	C	4B
CONNECTOR			
CN11	A	C	5B
CN12	A	C	5E
CN13	A	C	4E
CN14	A	C	2C
CN15	A	C	1C
CN16	A	C	1A
CN17	A	C	4A
CN19	A	C	5A
CN21	B	C	5B
CN22	B	C	4D
CN23	B	C	1B
CN25	B	C	5D
CIRCUIT PROTECTOR			
CP6001	B	C	5B
CP6002	A	C	5B
CP6003	A	C	5B
CP6004	A	C	5C
DIODE			
D101	B	C	3B
D102	B	C	3B
D103	B	C	2A
D104	B	C	2B
D3001	A	C	5D
D3002	A	C	4C
D3051	A	C	3B
D3053	A	C	3B
D3201	A	C	5C
D4501	B	C	1B
D6001	B	C	4A
D6002	B	C	4A
D6007	A	C	5A
D6008	A	C	5A
D6010	A	C	4B
DA101	A	C	2A
DA102	A	C	2B
DA104	B	C	2A
DA105	B	C	3B
DA106	A	C	1A
DA107	A	C	2B
IC			
IC101	A	C	2B
IC102	B	C	3C
IC103	B	C	3B
IC104	A	C	1A
IC105	B	C	1A
IC107	B	C	3C
IC108	B	C	2A
IC109	B	C	1A
IC110	A	C	1A
IC3001	A	C	4D
IC3051	A	C	3B
IC3052	A	C	4B
IC3101	A	C	4D
IC4001	B	C	5D
IC4002	B	C	5E
IC4003	B	C	4C
IC4004	B	C	4C
IC4005	B	C	5C
IC4201	B	C	3B
IC4202	B	C	3B
IC4203	B	C	4A
IC4301	B	C	3A
IC4501	B	C	1B
IC6001	B	C	3A
COIL			
L101	B	C	3C
L102	B	C	1B
L3001	A	C	3A
L3002	A	C	3A
L3004	A	C	5D
L3005	A	C	5C
L3052	A	C	3B
L3071	A	C	5D
L3101	B	C	4E
L3102	A	C	5E
L3104	A	C	5D
L3201	A	C	4A
L3202	A	C	4B
L3203	A	C	4C
L3204	A	C	4C
L3205	A	C	4C
L3206	A	C	5C
L3207	A	C	5C
L3208	A	C	5C
L4001	B	C	4C
L4002	B	C	4C
L4201	B	C	3A
L4501	A	C	1B
L4502	A	C	2B
L6001	A	C	5B
L6002	A	C	5B
L6003	A	C	5A
L6004	A	C	5A
L6005	A	C	4A
L6007	A	C	5B
L6008	B	C	4B
L6009	A	C	5B
L6010	B	C	4B
L6011	A	C	4A
L6012	B	C	5A
L6013	B	C	5A
L6014	B	C	5B
L6015	B	C	4A
L6016	A	C	5A
TRANSISTOR			
Q101	B	C	3C
Q102	B	C	2C
Q103	B	C	1B
Q104	B	C	1B
Q105	B	C	2C
Q106	B	C	2C
Q107	B	C	2C
Q108	B	C	2A
Q109	B	C	3A
Q110	B	C	3A
Q111	B	C	3A
Q112	B	C	3A
Q3004	A	C	3A
Q3005	A	C	3A
Q3006	A	C	5D
Q3007	A	C	5D
Q3008	A	C	5D
Q3009	A	C	5D
Q3010	A	C	5D
Q3011	A	C	5D
Q3101	A	C	4D
Q3102	A	C	5D
Q3103	A	C	5E
Q3104	A	C	5E
Q3201	A	C	4C
Q3203	A	C	4B
Q3204	A	C	4B
Q3205	A	C	4C
Q3206	A	C	5C
Q3207	A	C	5C
Q3208	A	C	5C
Q3209	A	C	5C
Q3302	A	C	3B
Q3303	A	C	3B
Q3307	B	C	5E
Q3308	B	C	5E
Q4001	B	C	5C
Q4002	B	C	5C
Q4003	B	C	5C
Q4004	B	C	5C
Q4005	B	C	5C
Q4006	B	C	4C
Q4007	B	C	4C
Q4008	B	C	4C
Q4201	B	C	3B
Q4202	B	C	4B
Q4203	B	C	3B
Q4204	B	C	3B
Q4205	B	C	3C
Q4206	B	C	4C
Q4501	B	C	1C
Q4502	B	C	1C
Q4503	B	C	1C
Q4504	B	C	1C
Q6001	B	C	4A
Q6004	B	C	5B
Q6006	B	C	4A
Q6007	B	C	5B
Q6009	B	C	5B
Q6010	B	C	5B
Q6011	A	C	4B
Q6012	B	C	5A
Q6013	B	C	5B
Q6023	A	C	3A
Q6024	B	C	5A
Q6201	A	C	4B
Q6202	A	C	5B
Q6203	A	C	4B

RESISTOR

REF.No.	LOCATION		
R101	B	C	3B
R102	B	C	2C
R103	B	C	2C
R104	B	C	2B
R105	B	C	3B
R106	B	C	2B
R107	B	C	3B
R108	A	C	1A
R109	B	C	1B
R110	A	C	2B
R111	A	C	2B
R112	A	C	1A
R113	B	C	3A
R114	B	C	3A
R115	B	C	3A
R116	B	C	2A
R117	B	C	2A
R118	B	C	3B
R119	B	C	1B
R120	B	C	2A
R121	B	C	2C
R122	A	C	2B
R123	B	C	1A
R124	A	C	2B
R125	B	C	1A
R126	B	C	1A
R127	B	C	3A
R128	B	C	2A
R129	B	C	2A
R130	B	C	2A
R131	B	C	2A
R132	B	C	3A
R133	B	C	3A
R134	B	C	3A
R135	B	C	2A
R136	A	C	2A
R137	B	C	2A
R138	B	C	2A
R139	A	C	2A
R140	B	C	2A
R141	B	C	1A
R142	B	C	1A
R143	B	C	1A
R144	B	C	1A
R145	B	C	1A
R146	A	C	2A
R147	B	C	3B
R148	B	C	3B
R149	B	C	3A
R150	B	C	3A
R151	B	C	3A
R152	B	C	3A
R153	B	C	3B
R154	B	C	3B
R155	B	C	2A
R156	B	C	1B
R157	A	C	3B
R158	A	C	3B
R159	A	C	3B
R160	B	C	2B
R161	B	C	2B
R162	B	C	2B
R163	A	C	2C
R164	B	C	2A
R165	B	C	2B
R166	A	C	2B
R167	A	C	3B
R168	B	C	1A
R169	A	C	2A
R170	A	C	2A
R171	B	C	1A
R172	B	C	1A
R173	B	C	3B
R174	B	C	2A
R175	A	C	1A
R176	A	C	1A
R177	A	C	1A
R178	A	C	1A
R179	A	C	1A
R180	B	C	2B
R181	A	C	3B
R182	A	C	1A
R183	A	C	1A
R184	B	C	3A
R185	A	C	1A
R186	A	C	1A
R187	B	C	2A
R188	B	C	2B
R189	B	C	2B
R190	B	C	3B
R191	A	C	2B
R192	A	C	3B
R3001	A	C	4C
R3002	A	C	4C
R3003	A	C	4C
R3004	A	C	4C
R3005	A	C	4C
R3008	A	C	3B
R3011	A	C	4D
R3012	A	C	4D
R3013	A	C	4D
R3014	A	C	4D
R3015	A	C	4D
R3016	A	C	5D
R3017	A	C	5D
R3018	A	C	5D
R3019	A	C	5D
R3020	A	C	5D
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R3022	A	C	5D
R3023	A	C	5D
R3024	A	C	5C
R3025	A	C	5C
R3026	A	C	5D
R3027	A	C	5C
R3029	A	C	5C
R3035	A	C	4D
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R3037	B	C	1A
R3039	A	C	3A
R3040	A	C	3A
R3051	A	C	3B
R3052	A	C	3B
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R3073	A	C	5D
R3074	A	C	5D
R3075	A	C	5D
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R3108	A	C	4E
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R3112	A	C	5E
R3113	A	C	5E
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R3115	A	C	5D
R3116	A	C	4D
R3117	A	C	5D
R3118	A	C	5D
R3119	A	C	5E
R3120	A	C	5D
R3201	A	C	4C
R3202	A	C	4C
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R3206	A	C	4B
R3207	A	C	4B
R3208	A	C	4B
R3209	A	C	3B
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R3212	A	C	4C
R3213	A	C	4C
R3214	A	C	5C
R3215	A	C	5C
R3216	A	C	4C
R3217	A	C	5C
R3218	A	C	5C
R3219	A	C	5C
R3220	A	C	5C
R3221	A	C	5C
R3222	A	C	5C
R3223	A	C	5C
R3224	A	C	5C
R3225	A	C	5C
R3229	A	C	4B
R3230	A	C	4C
R3300	A	C	3C
R3301	A	C	3C
R3302	A	C	3C
R3303	A	C	3C
R3304	A	C	4D
R3310	B	C	5E
R3311	B	C	5E
R3312	B	C	5E
R3313	B	C	5E
R3314	B	C	5E
R3315	B	C	5E
R3401	A	C	3A
R4001	B	C	4C
R4002	B	C	4C
R4003	B	C	4C
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R4008	B	C	5C
R4009	B	C	5C
R4010	B	C	5C
R4011	B	C	5E
R4012	B	C	5E
R4013	B	C	5E
R4014	B	C	4E
R4015	B	C	4E
R4016	B	C	4E
R4017	B	C	4E
R4018	B	C	4E
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R4023	B	C	4E
R4024	B	C	4E
R4025	B	C	4E
R4026	B	C	4E
R4027	B	C	5C
R4028	B	C	5C
R4029	B	C	5C
R4030	B	C	5C
R4031	B	C	5C
R4032	B	C	5C
R4033	B	C	5C
R4034	B	C	5C
R4035	B	C	5C
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R4052	B	C	5C
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R4054	B	C	4C
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R4205	B	C	4B
R4206	B	C	4B
R4207	B	C	3B
R4208	B	C	4B
R4209	B	C	4B
R4210	B	C	4B
R4211	B	C	3B
R4212	B	C	4B
R4213	B	C	3B
R4214	B	C	4B
R4215	B	C	4B
R4216	B	C	4B
R4217	B	C	4B
R4218	B	C	4B
R4219	B	C	4B
R4220	B	C	3B
R4221	B	C	3B
R4222	B	C	4B
R4223	B	C	4C
R4224	B	C	4B
R4225	B	C	4B
R4226	B	C	4B
R4227	B	C	4B
R4228	B	C	4C
R4229	B	C	4C
R4230	B	C	4B
R4231	B	C	4C
R4232	B	C	3C
R4233	B	C	3B
R4501	A	C	2B
R4502	A	C	2B
R4503	B	C	1B
R4504	B	C	1B
R4505	B	C	1B
R4506	B	C	1B
R4507	B	C	1B
R4508	B	C	1B
R4510	B	C	1C
R4511	B	C	2C
R4512	B	C	2B
R4513	B	C	2B
R4514	B	C	1B
R4515	B	C	1B
R4516	B	C	2B
R4517	B	C	2B
R4519	B	C	2B
R6001	B	C	5B
R6002	B	C	4A
R6003	A	C	3A
R6004	A	C	3A
R6005	A	C	3A
R6006	A	C	3A
R6011	B	C	4A
R6012	B	C	5A
R6013	B	C	5A
R6016	B	C	5B
R6017	B	C	5B
R6019	B	C	4A
R6020	B	C	4A
R6021	B	C	4A
R6022	B	C	5B
R6023	B	C	4B
R6024	B	C	4B
R6025	B	C	4B
R6026	B	C	4A
R6027	B	C	4A
R6028	B	C	4A
R6029	B	C	4A
R6030	B	C	4B
R6031	B	C	4B
R6032	A	C	4A
R6033	A	C	4A
R6034	A	C	4A
R6036	B	C	5B
R6038	B	C	5A
R6039	B	C	5A
R6040	B	C	5A
R6041	B	C	5A
R6042	B	C	5A
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R6073	B	C	5A
R6076	B	C	5A
R6201	A	C	4B
R6202	A	C	4B
R6203	A	C	5B
R6204	A	C	4B
RA101	A	C	3A
RA102	A	C	2B
RA103	A	C	3A
RA104	A	C	1A
RA105	A	C	3B
RA107	A	C	3B
RA108	A	C	2A

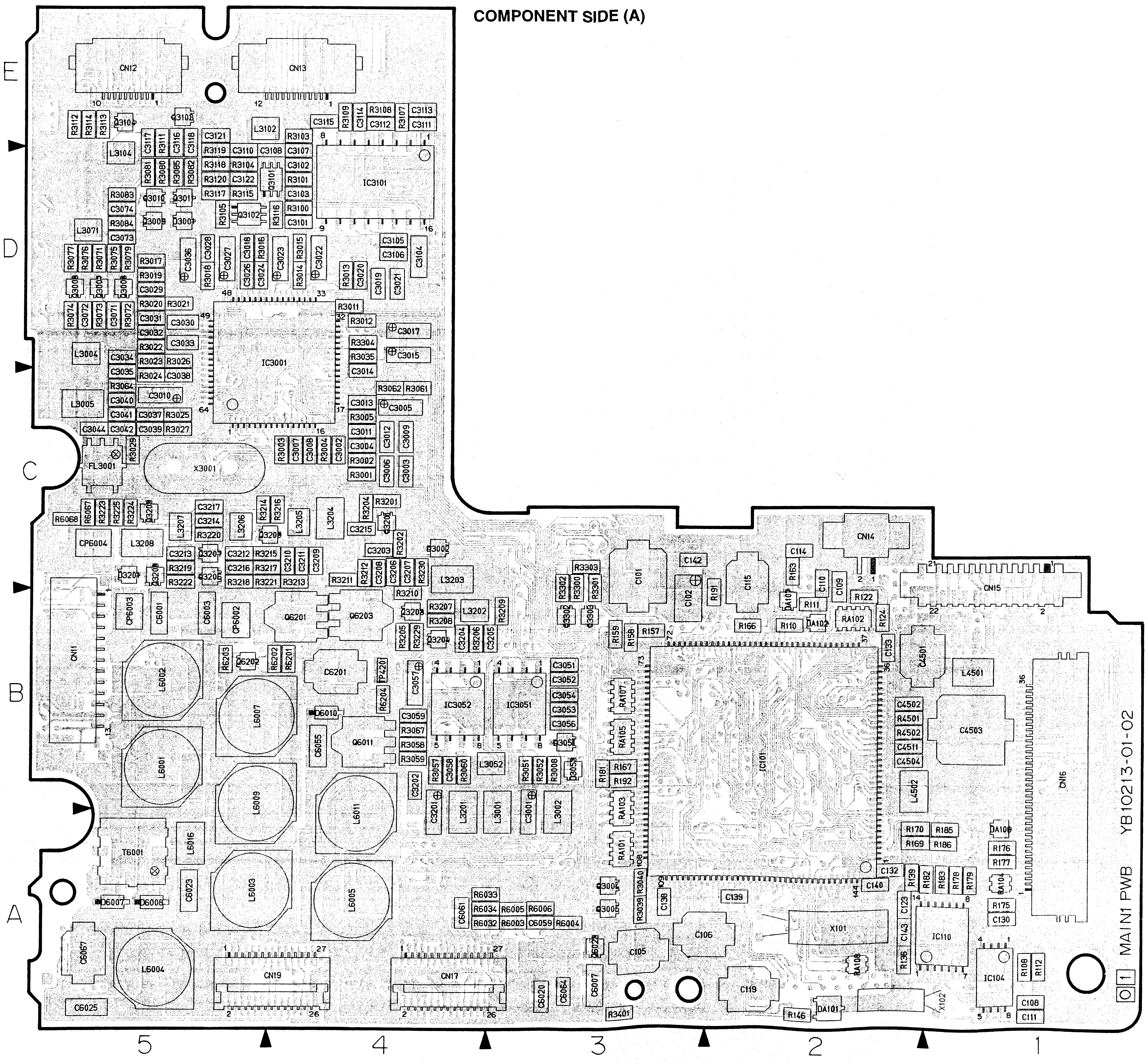
TEST POINT

REF.No.	LOCATION		
TP10	B	C	4A
TP4201	A	C	4B

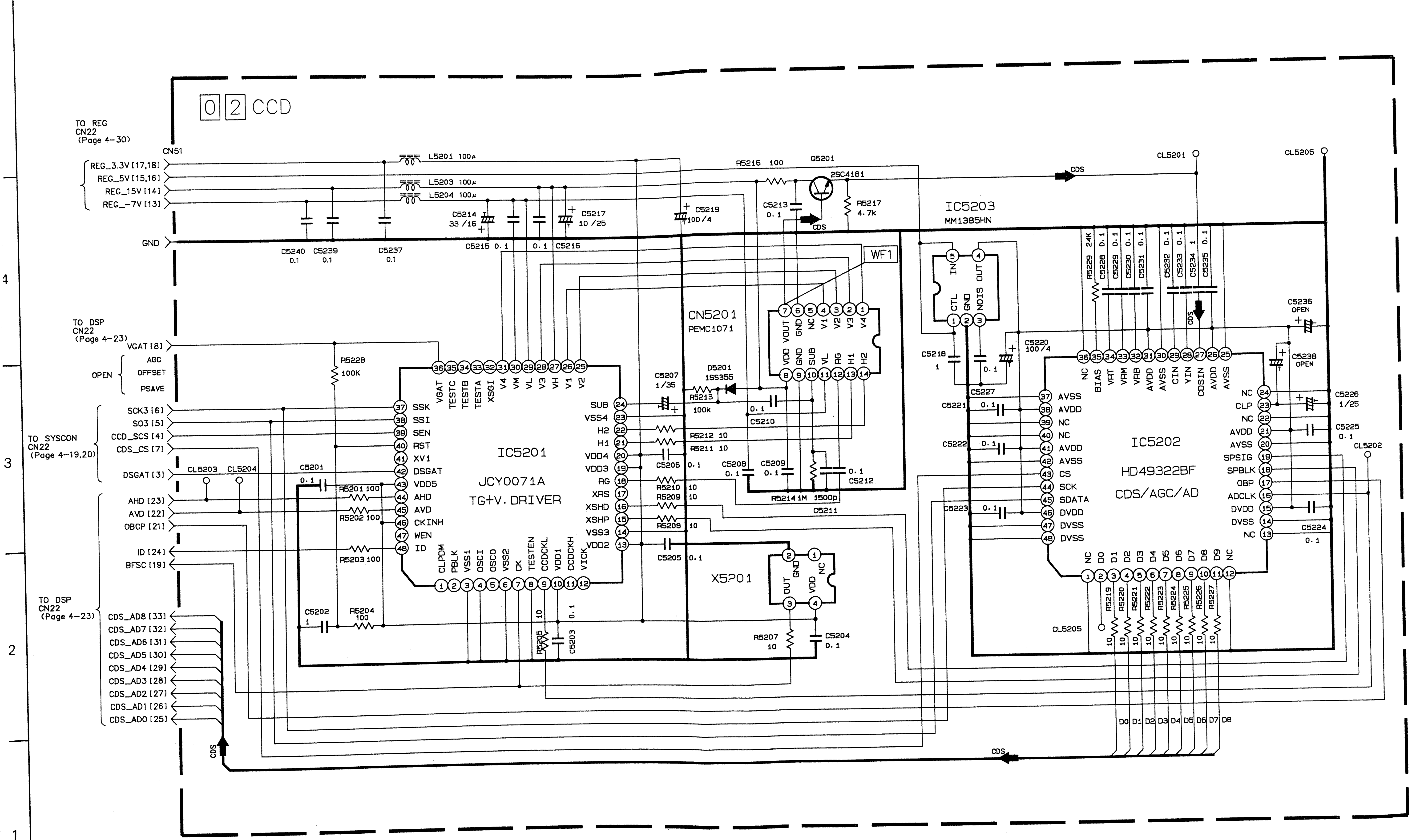
OTHER

REF.No.	LOCATION		
FL3001	A	C	5C
FL4001	B	C	5C
FL4002	B	C	5C
FL4003	B	C	4C
T6001	A	C	5A
X101	A	D	2A
X102	A	D	1A
X3001	A	D	5C

COMPONENT SIDE (A)


E
D
C
B
A
5
4
3
2
1
CN12
CN13
CN14
CN15
CN16
CN11
CN17
CN19
IC3101
IC3001
IC3052
IC3051
IC101
IC110
IC104
X3001
X101
X102
FL3001
T6001
L6001
L6002
L6003
L6004
L6005
L6007
L6009
L6011
L6016
Q6201
Q6203
Q6011
C6201
C4503
C4501
L4501
L4502
C101
C105
C106
C115
C119
L3001
L3002
L3201
L3202
L3203
L3204
L3208
L3004
L3005
L3071
L3102
L3104
L3052
CP6004
CP6003
CP6002
DA101
DA102
DA106
RA101
RA102
RA103
RA104
RA105
RA106
RA107
MAIN1 PWB   YB10213-01-02
01

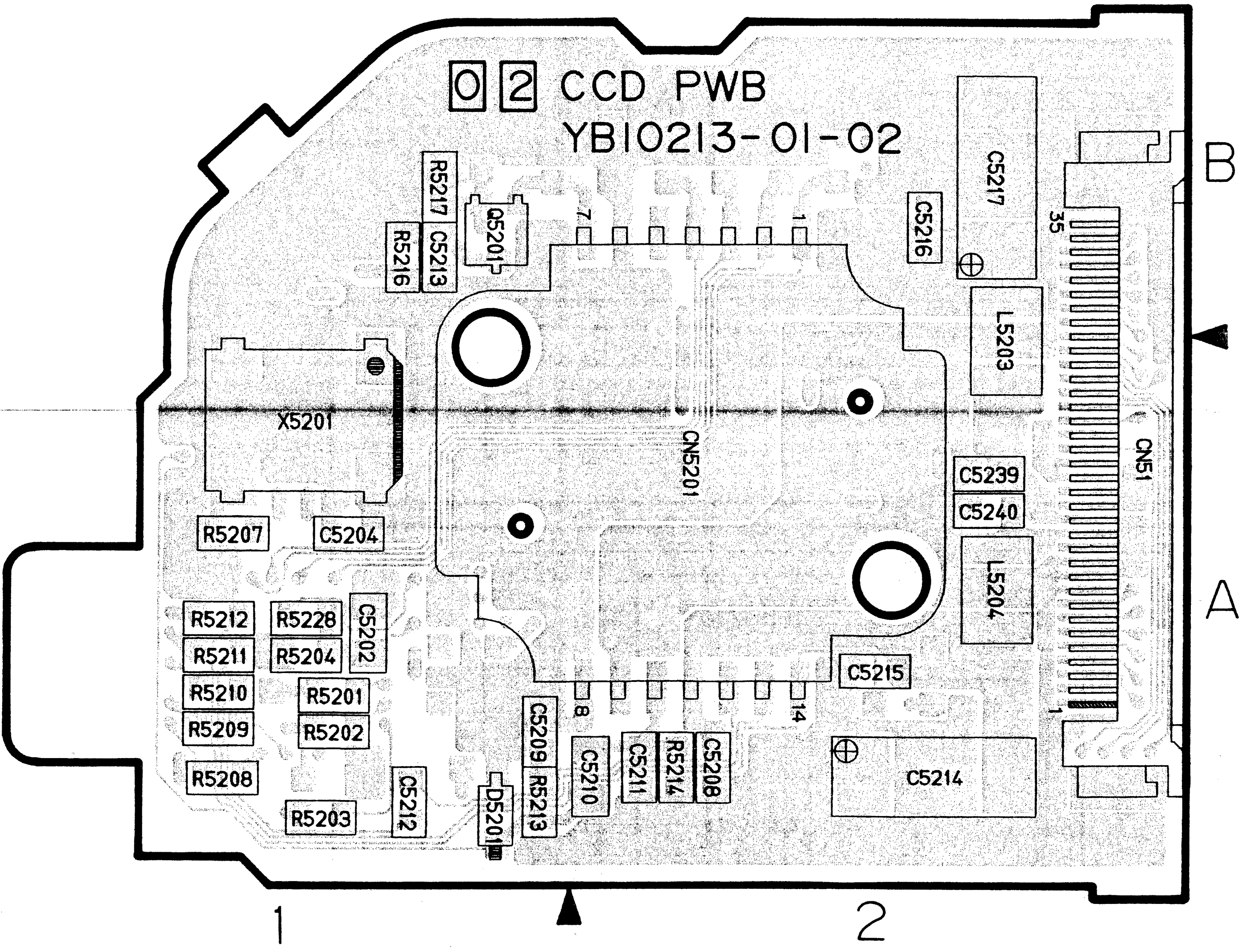
4.14 CCD SCHEMATIC DIAGRAM


02 CCD
TO REG CN22 (Page 4-30)
CN51
REG_3.3V [17,18]
REG_5V [15,16]
REG_15V [14]
REG_-7V [13]
GND
L5201 100μ
L5203 100μ
L5204 100μ
C5240 0.1
C5239 0.1
C5237 0.1
C5214 33 /16
C5215 0.1
0.1
C5216
C5217 10 /25
C5219 100 /4
R5216 100
Q5201 2SC4181
C5213 0.1
R5217 4.7k
CDS
CL5201
CL5206
IC5203 MM1385HN
WF1
CN5201 PEMC1071
VOUT GND NC V1 V2 V3 V4
VDD GND SUB VL RG H1 H2
IN OUT CTL GND NOIS
C5218 1
C5220 100 /4
C5227 0.1
TO DSP CN22 (Page 4-23)
VGAT [8]
OPEN AGC OFFSET PSAVE
R5228 100K
TO SYSCON CN22 (Page 4-19,20)
SCK3 [6]
SO3 [5]
CCD_SCS [4]
CDS_CS [7]
DSGAT [3]
CL5203
CL5204
C5201 0.1
R5201 100
R5202 100
R5203 100
AHD [23]
AVD [22]
OBCP [21]
ID [24]
BFSC [19]
IC5201 JCY0071A TG+V. DRIVER
VGAT TESTC TESTB TESTA XSGI V4 VM VL V3 VH V1 V2
SSK SSI SEN RST XV1 DSGAT VDD5 AHD AVD CKINH WEN ID
SUB VSS4 H2 H1 VDD4 VDD3 RG XRS XSHD XSHP VSS3 VDD2
CLPDM PBLK VSS1 OSCI OSCO VSS2 CK TESTEN CCDCKL VDD1 CCDCKH VICK
C5207 1/35
D5201 1SS355
R5213 100k
C5210 0.1
R5212 10
R5211 10
C5206 0.1
C5208 0.1
C5209 0.1
R5214 1M
1500p
C5211
C5212 0.1
R5210 10
R5209 10
R5208 10
C5205 0.1
X5201
OUT GND NC VDD
R5207 10
C5204 0.1
C5202 1
R5204 100
R5205 10
C5203 0.1
TO DSP CN22 (Page 4-23)
CDS_AD8 [33]
CDS_AD7 [32]
CDS_AD6 [31]
CDS_AD5 [30]
CDS_AD4 [29]
CDS_AD3 [28]
CDS_AD2 [27]
CDS_AD1 [26]
CDS_AD0 [25]
IC5202 HD49322BF CDS/AGC/AD
NC BIAS VRT VRM VRB AVDD AVSS CIN YIN CDSIN AVDD AVSS
AVSS AVDD NC NC AVDD AVSS CS SCK SDATA DVDD DVSS DVSS
NC CLP NC AVDD AVSS SPSIG SPBLK OBP ADCLK DVDD DVSS NC
NC D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 NC
R5229 24K
C5228 0.1
C5229 0.1
C5230 0.1
C5231 0.1
C5232 0.1
C5233 0.1
C5234 1
C5235 0.1
C5236 OPEN
C5238 OPEN
C5221 0.1
C5222 0.1
C5223 0.1
C5226 1/25
C5225 0.1
C5224 0.1
CL5202
CL5205
R5219 R5220 R5221 R5222 R5223 R5224 R5225 R5226 R5227
10
D0 D1 D2 D3 D4 D5 D6 D7 D8
4
3
2
1
F
G
H

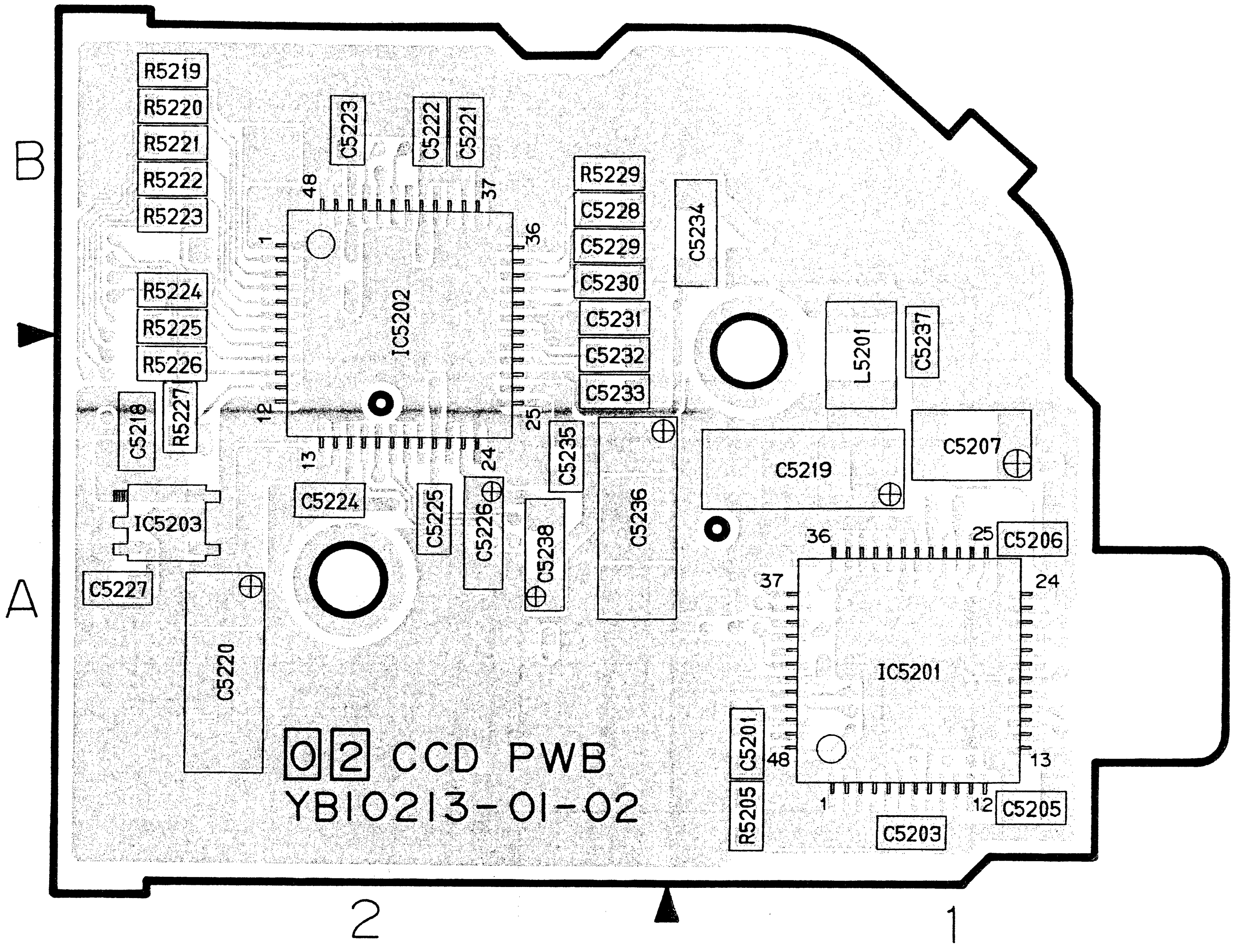
NOTE : For CCD waveforms, please refer to page 4–69.

4.15 CCD CIRCUIT BOARD

FOIL SIDE (B)


02 CCD PWB
YB10213-01-02
R5217
R5216
Q5201
C5213
7
1
C5216
C5217
35
L5203
X5201
CN5201
CN51
C5239
C5240
L5204
R5207
C5204
R5212
R5228
C5202
R5211
R5204
R5210
R5201
R5209
R5202
R5208
R5203
C5212
D5201
C5209
R5213
8
C5210
C5211
R5214
C5208
14
C5215
C5214
1
B
A
1
2

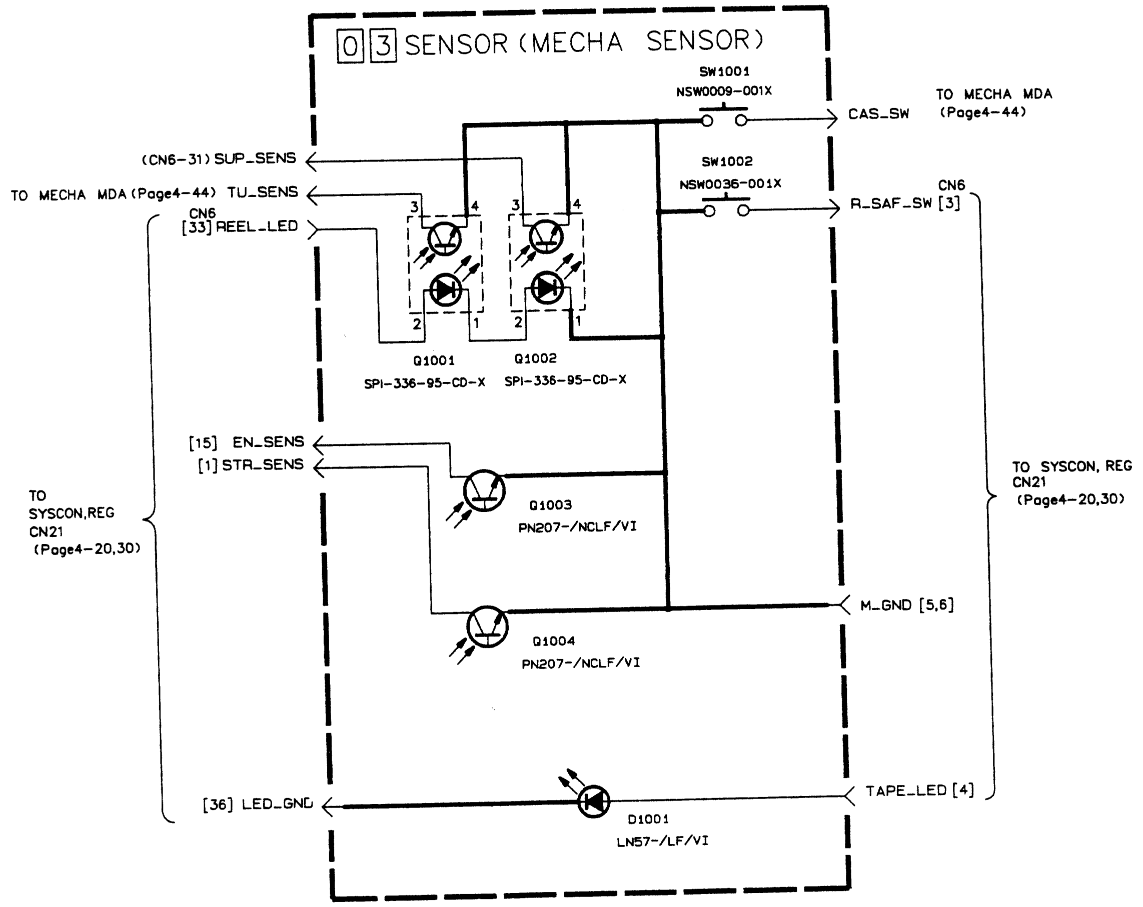
COMPONENT SIDE (A)

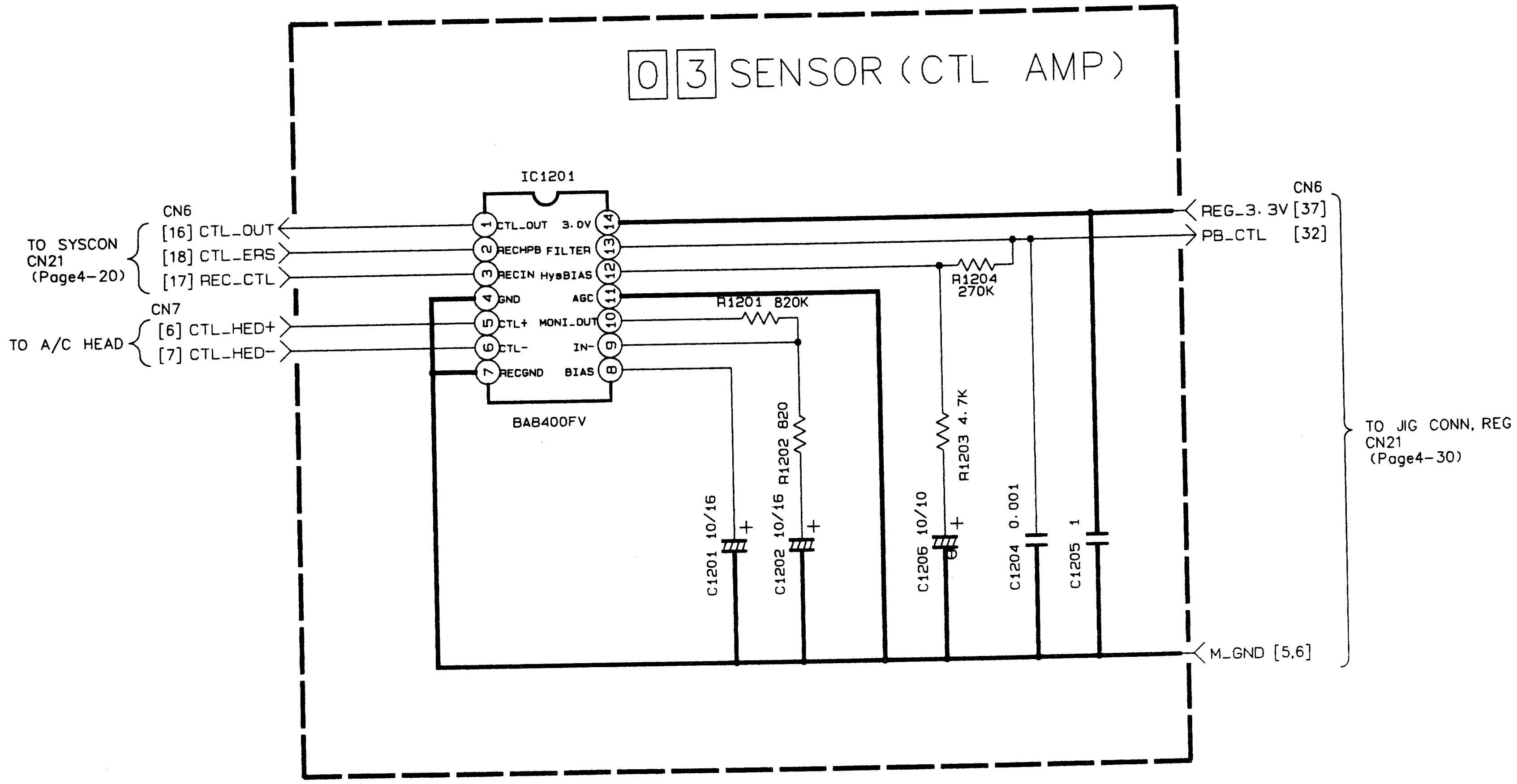

B
A
R5219
R5220
R5221
R5222
R5223
C5223
C5222
C5221
48
37
1
36
R5224
R5225
R5226
IC5202
12
13
24
25
R5229
C5228
C5229
C5230
C5231
C5232
C5233
C5234
L5201
C5237
C5218
R5227
C5207
C5219
C5235
C5236
C5224
C5225
C5226
C5238
IC5203
C5227
C5220
C5206
36
25
37
24
IC5201
48
13
1
12
C5201
C5205
R5205
C5203
02 CCD PWB
YB10213-01-02
2
1

COMPONENT PARTS LOCATION GUIDE (CCD)

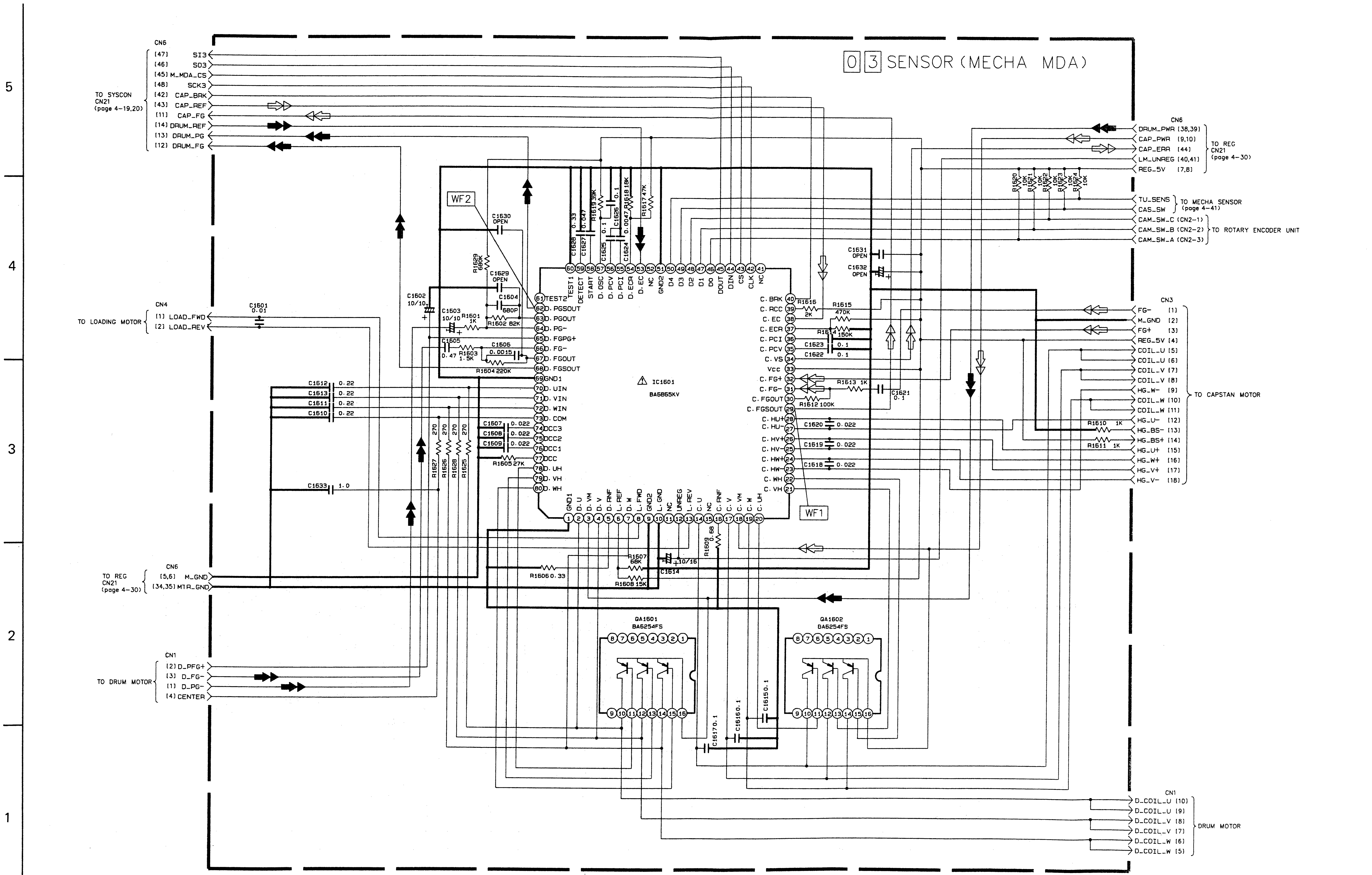
REF.No.	LOCATION		
CAPACITOR			
C5201	A	C	1A
C5202	B	C	1A
C5203	A	C	1A
C5204	B	C	1A
C5205	A	C	1A
C5206	A	C	1A
C5207	A	C	1A
C5208	B	C	2A
C5209	B	C	1A
C5210	B	C	2A
C5211	B	C	2A
C5212	B	C	1A
C5213	B	C	1B
C5214	B	C	2A
C5215	B	C	2A
C5216	B	C	2B
C5217	B	C	2B
C5218	A	C	2A
C5219	A	C	1A
C5220	A	C	2A
C5221	A	C	2B
C5222	A	C	2B
C5223	A	C	2B
C5224	A	C	2A
C5225	A	C	2A
C5226	A	C	2A
C5227	A	C	2A
C5228	A	C	2B
C5229	A	C	2B
C5230	A	C	2B
C5231	A	C	2B
C5232	A	C	2A
C5233	A	C	2A
C5234	A	C	1B
C5235	A	C	2A
C5236	A	C	2A
C5237	A	C	1A
C5238	A	C	2A
C5239	B	C	2A
C5240	B	C	2A
CONNECTOR			
CN51	B	C	2A
CN5201	B	C	2A
DIODE			
D5201	B	C	1A
IC			
IC5201	A	C	1A
IC5202	A	C	2B
IC5203	A	C	2A
COIL			
L5201	A	C	1A
L5203	B	C	2A
L5204	B	C	2A
TRANSISTOR			
Q5201	B	C	1B
RESISTOR			
R5201	B	C	1A
R5202	B	C	1A
R5203	B	C	1A
R5204	B	C	1A
R5205	A	C	1A
R5207	B	C	1A
R5208	B	C	1A
R5209	B	C	1A
R5210	B	C	1A
R5211	B	C	1A
R5212	B	C	1A
R5213	B	C	1A
R5214	B	C	2A
R5216	B	C	1B
R5217	B	C	1B
R5219	A	C	2B
R5220	A	C	2B
R5221	A	C	2B
R5222	A	C	2B
R5223	A	C	2B
R5224	A	C	2B
R5225	A	C	2B
R5226	A	C	2A
R5227	A	C	2A
R5228	B	C	1A
R5229	A	C	2B
OTHER			
X5201	B	C	1A

4.16 MECHA SENSOR AND CTL AMP SCHEMATIC DIAGRAMS


0 3 SENSOR (MECHA SENSOR)
SW1001
NSW0009-001X
CAS_SW
TO MECHA MDA
(Page4-44)
SW1002
NSW0036-001X
CN6
R_SAF_SW [3]
(CN6-31) SUP_SENS
TO MECHA MDA (Page4-44) TU_SENS
CN6
[33] REEL_LED
3
4
3
4
2
1
2
1
Q1001
SPI-336-95-CD-X
Q1002
SPI-336-95-CD-X
[15] EN_SENS
[1] STR_SENS
Q1003
PN207-/NCLF/VI
TO
SYSCON,REG
CN21
(Page4-20,30)
TO SYSCON, REG
CN21
(Page4-20,30)
M_GND [5,6]
Q1004
PN207-/NCLF/VI
[36] LED_GND
TAPE_LED [4]
D1001
LN57-/LF/VI


0 3 SENSOR (CTL AMP)
IC1201
CN6
[16] CTL_OUT
[18] CTL_ERS
[17] REC_CTL
TO SYSCON
CN21
(Page4-20)
CN7
TO A/C HEAD
[6] CTL_HED+
[7] CTL_HED-
1 CTL_OUT
2 RECHPB
3 RECIN
4 GND
5 CTL+
6 CTL-
7 RECGND
14 3.0V
13 FILTER
12 HysBIAS
11 AGC
10 MONI_OUT
9 IN-
8 BIAS
BA8400FV
R1201 820K
R1204
270K
R1202 820
R1203 4.7K
C1201 10/16
C1202 10/16
C1206 10/10
C1204 0.001
C1205 1
CN6
REG_3.3V [37]
PB_CTL [32]
TO JIG CONN, REG
CN21
(Page4-30)
M_GND [5,6]

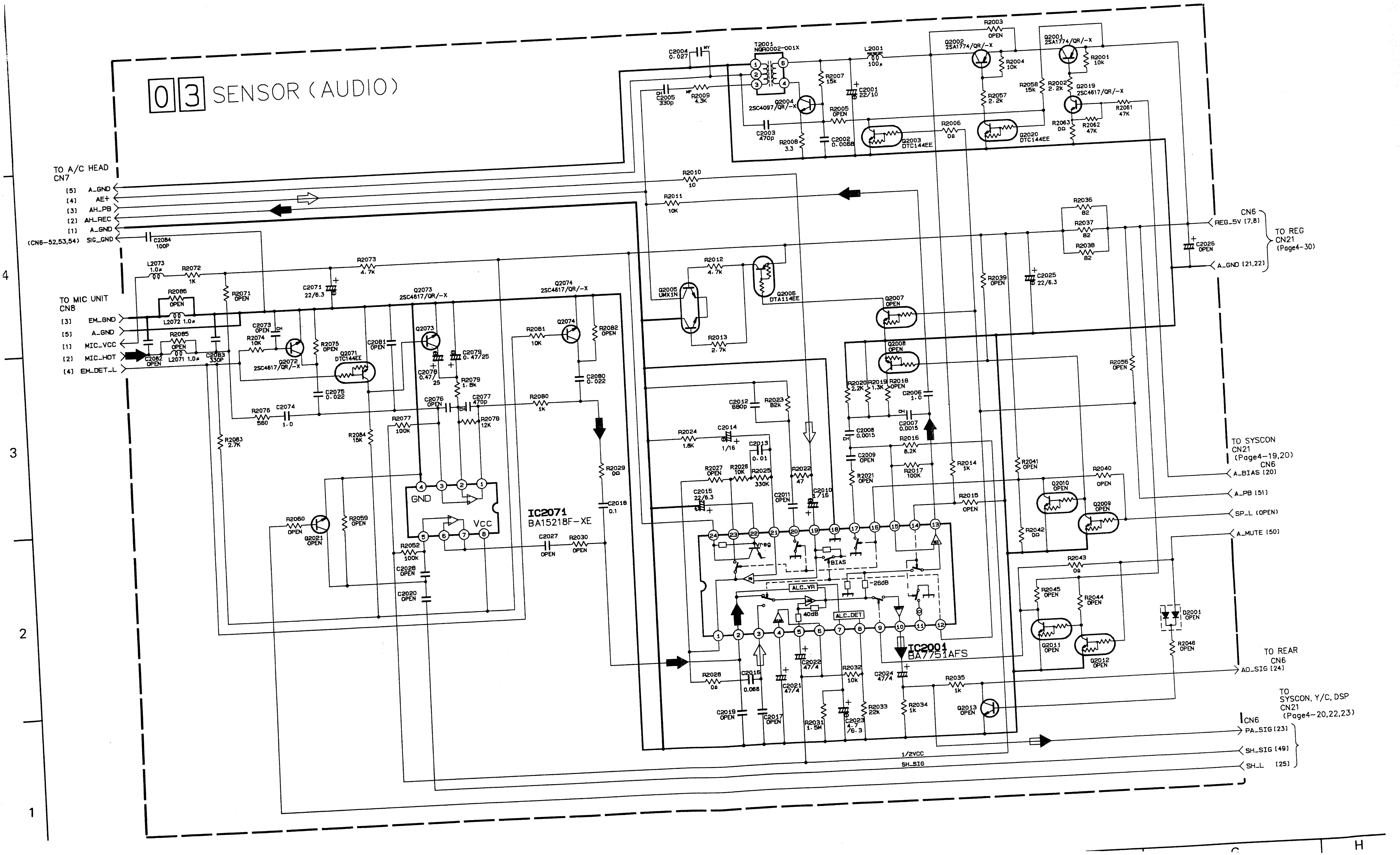
4.17 MECHA MDA SCHEMATIC DIAGRAM



03 SENSOR (MECHA MDA)
CN6
TO SYSCON CN21 (page 4-19,20)
[47] SI3
[46] SO3
[45] M_MDA_CS
[48] SCK3
[42] CAP_BRK
[43] CAP_REF
[11] CAP_FG
[14] DRUM_REF
[13] DRUM_PG
[12] DRUM_FG
CN6
DRUM_PWR [38,39]
CAP_PWR [9,10]
CAP_ERR [44]
LM_UNREG [40,41]
REG_5V [7,8]
TO REG CN21 (page 4-30)
R1620 10K
R1621 10K
R1622 10K
R1623 10K
R1624 10K
TU_SENS
CAS_SW
TO MECHA SENSOR (page 4-41)
CAM_SW_C (CN2-1)
CAM_SW_B (CN2-2)
CAM_SW_A (CN2-3)
TO ROTARY ENCODER UNIT
WF2
C1630 OPEN
C1628 0.33
C1627 0.047
R1619 39K
C1625 0.1
C1626 0.1
C1624 0.0047
R1618 18K
R1617 47K
R1629 680K
C1629 OPEN
C1604 680P
C1602 10/10
C1603 10/10
R1601 1K
R1602 82K
C1605 0.47
R1603 1.5K
C1606 0.0015
R1604 220K
CN4
TO LOADING MOTOR
[1] LOAD_FWD
[2] LOAD_REV
C1601 0.01
C1612 0.22
C1613 0.22
C1611 0.22
C1610 0.22
C1633 1.0
R1627 270
R1626 270
R1628 270
R1625 270
C1607 0.022
C1608 0.022
C1609 0.022
R1605 27K
61 TEST2
62 D.PGSOUT
63 D.PGOUT
64 D.PG-
65 D.FGPG+
66 D.FG-
67 D.FGOUT
68 D.FGSOUT
69 GND1
70 D.UIN
71 D.VIN
72 D.WIN
73 D.COM
74 DCC3
75 DCC2
76 DCC1
77 DCC
78 D.UH
79 D.VH
80 D.WH
60 TEST1
59 DETECT
58 START
57 D.OSC
56 D.PCV
55 D.PCI
54 D.ECR
53 D.EC
52 NC
51 GND2
50 D4
49 D3
48 D2
47 D1
46 DO
45 DOUT
44 DIN
43 CS
42 CLK
41 NC
40 C.BRK
39 C.RCC
38 C.EC
37 C.ECR
36 C.PCI
35 C.PCV
34 C.VS
33 VCC
32 C.FG+
31 C.FG-
30 C.FGOUT
29 C.FGSOUT
28 C.HU+
27 C.HU-
26 C.HV+
25 C.HV-
24 C.HW+
23 C.HW-
22 C.WH
21 C.VH
1 GND1
2 D.U
3 D.VM
4 D.V
5 D.RNF
6 L.REF
7 D.W
8 L.FWD
9 GND2
10 L.GND
11 NC
12 UNREG
13 L.REV
14 C.U
15 NC
16 C.RNF
17 C.V
18 C.VM
19 C.W
20 C.UH
IC1601
BA6865KV
C1631 OPEN
C1632 OPEN
R1616 2K
R1615 470K
R1614 150K
C1623 0.1
C1622 0.1
R1613 1K
C1621 0.1
R1612 100K
C1620 0.022
C1619 0.022
C1618 0.022
WF1
CN3
FG- [1]
M_GND [2]
FG+ [3]
REG_5V [4]
COIL_U [5]
COIL_U [6]
COIL_V [7]
COIL_V [8]
HG_W- [9]
COIL_W [10]
COIL_W [11]
HG_U- [12]
HG_BS- [13]
HG_BS+ [14]
HG_U+ [15]
HG_W+ [16]
HG_V+ [17]
HG_V- [18]
TO CAPSTAN MOTOR
R1610 1K
R1611 1K
R1609 0.68
R1607 68K
C1614 10/16
R1606 0.33
R1608 15K
CN6
TO REG CN21 (page 4-30)
[5,6] M_GND
[34,35] MTR_GND
QA1601
BA6254FS
QA1602
BA6254FS
C1617 0.1
C1616 0.1
C1615 0.1
CN1
TO DRUM MOTOR
[2] D_PFG+
[3] D_FG-
[1] D_PG-
[4] CENTER
CN1
D_COIL_U [10]
D_COIL_U [9]
D_COIL_V [8]
D_COIL_V [7]
D_COIL_W [6]
D_COIL_W [5]
DRUM MOTOR
5
4
3
2
1
A
B
C
D
E
F
G
H

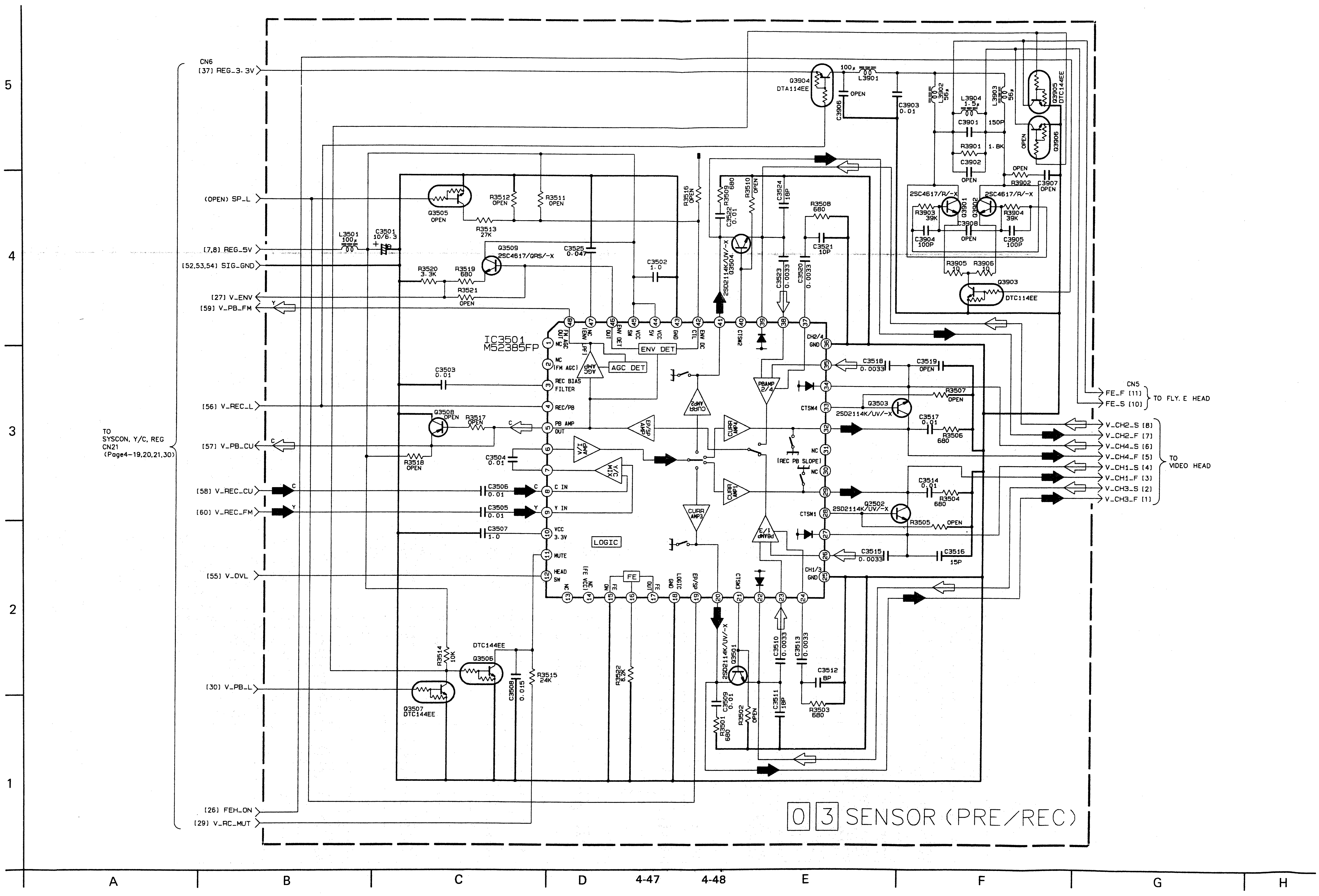
NOTE : For MECHA MDA waveforms, please refer to page 4-69.

18 AUDIO SCHEMATIC DIAGRAM



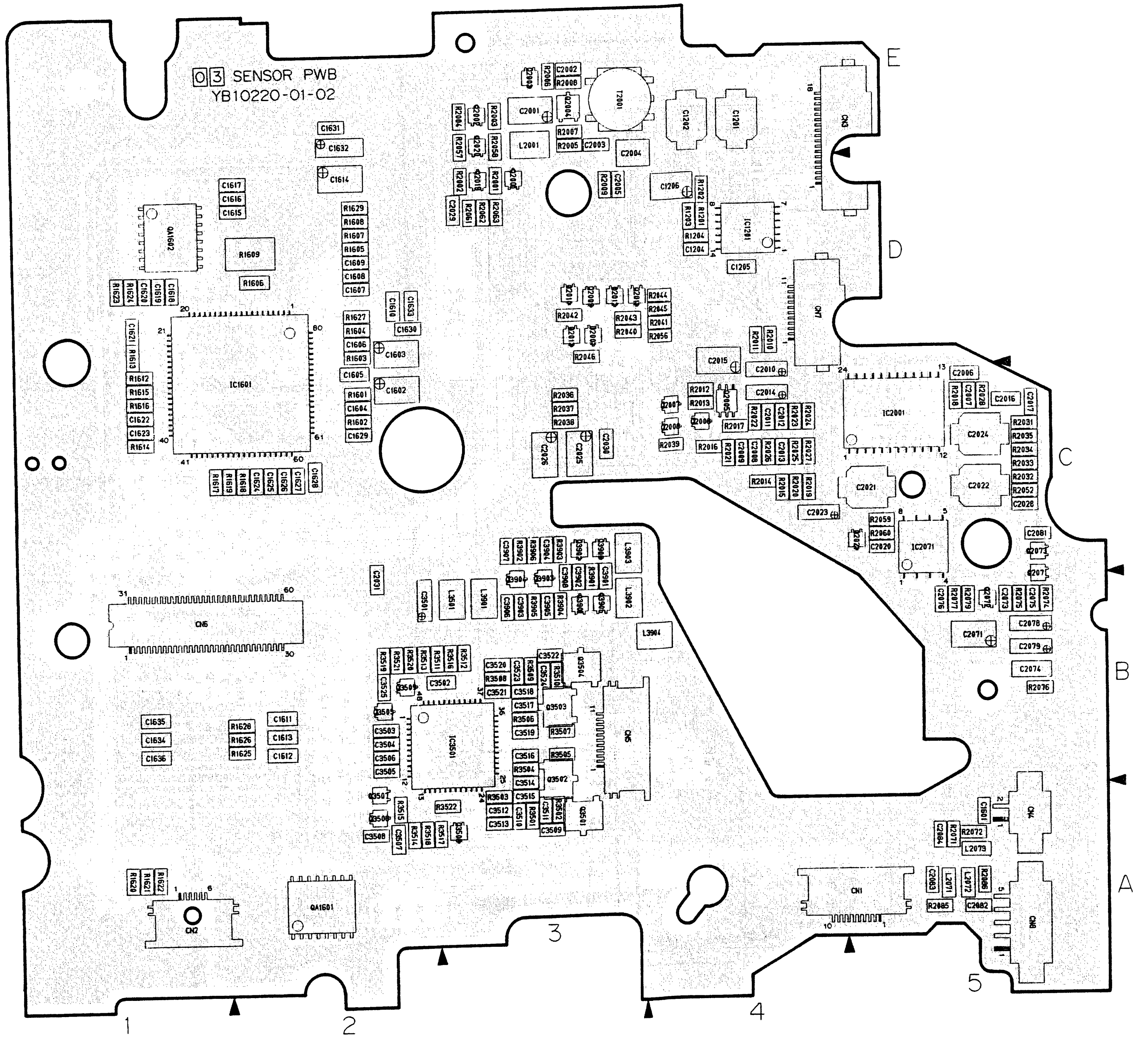
03 SENSOR (AUDIO)
TO A/C HEAD
CN7
[5] A_GND
[4] AE+
[3] AH_PB
[2] AH_REC
[1] A_GND
(CN6-52,53,54) SIG_GND
C2084 100P
TO MIC UNIT
CN8
[3] EM_GND
[5] A_GND
[1] MIC_VCC
[2] MIC_HOT
[4] EM_DET_L
L2073 1.0μ
R2072 1K
R2086 OPEN
L2072 1.0μ
R2085 OPEN
L2071 1.0μ
C2082 OPEN
C2083 330P
R2071 OPEN
R2073 4.7K
C2071 22/6.3
Q2073 2SC4617/QR/-X
Q2074 2SC4617/QR/-X
C2073 OPEN
R2074 10K
Q2072 2SC4617/QR/-X
R2075 OPEN
Q2071 DTC144EE
C2081 OPEN
C2075 0.022
C2078 0.47/25
C2079 0.47/25
R2079 1.8K
C2076 OPEN
C2077 470P
R2078 12K
R2076 560
C2074 1.0
R2077 100K
R2084 15K
R2083 2.7K
R2081 10K
R2082 OPEN
C2080 0.022
R2080 1K
R2029 0Ω
C2018 0.1
IC2071 BA15218F-XE
GND
Vcc
R2060 OPEN
Q2021 OPEN
R2059 OPEN
R2052 100K
C2028 OPEN
C2020 OPEN
C2027 OPEN
R2030 OPEN
C2004 0.027 MY
T2001 NQR0002-001X
C2005 330P
R2009 4.3K
Q2004 2SC4097/QR/-X
R2007 15K
L2001 100μ
C2001 22/10
R2005 OPEN
C2003 470P
R2008 3.3
C2002 0.0068
Q2003 DTC144EE
R2003 OPEN
Q2002 2SA1774/QR/-X
R2004 10K
Q2001 2SA1774/QR/-X
R2001 10K
R2058 15K
R2002 2.2K
R2057 2.2K
Q2019 2SC4617/QR/-X
R2061 47K
R2063 0Ω
R2062 47K
R2006 0Ω
Q2020 DTC144EE
R2010 10
R2011 10K
R2036 82
R2037 82
R2038 82
CN6
REG_5V [7,8]
TO REG
CN21
(Page4-30)
C2025 OPEN
A_GND [21,22]
R2012 4.7K
Q2005 UMX1N
Q2006 DTA114EE
R2013 2.7K
R2039 OPEN
C2025 22/6.3
Q2007 OPEN
Q2008 OPEN
R2020 2.2K
R2019 1.3K
R2018 OPEN
C2006 1.0
C2012 680P
R2023 82K
C2008 0.0015
C2007 0.0015
R2016 8.2K
R2024 1.8K
C2014 1/16
C2013 0.01
C2009 OPEN
R2027 OPEN
R2026 10K
R2025 330K
R2022 47
R2021 OPEN
R2017 100K
R2014 1K
C2015 22/6.3
C2011 OPEN
C2010 1/16
R2015 OPEN
R2041 OPEN
R2040 OPEN
Q2010 OPEN
Q2009 OPEN
R2055 OPEN
TO SYSCON
CN21
(Page4-19,20)
CN6
A_BIAS [20]
A_PB [51]
SP_L (OPEN)
A_MUTE [50]
R2042 0Ω
R2043 0Ω
R2045 OPEN
R2044 OPEN
Q2011 OPEN
Q2012 OPEN
D2001 OPEN
R2046 OPEN
Vreg
BIAS
ALC_VR
-26dB
40dB
ALC_DET
IC2001 BA7751AFS
R2028 0Ω
C2016 0.068
C2022 47/4
C2021 47/4
R2032 10K
C2024 47/4
R2035 1K
R2034 1K
Q2013 OPEN
R2033 22K
C2023 4.7/6.3
R2031 1.5M
C2019 OPEN
C2017 OPEN
TO REAR
CN6
AO_SIG [24]
TO
SYSCON, Y/C, DSP
CN21
(Page4-20,22,23)
CN6
PA_SIG [23]
SH_SIG [49]
SH_L [25]
1/2VCC
SH_SIG
4
3
2
1
G
H

4.19 PRE/REC SCHEMATIC DIAGRAM

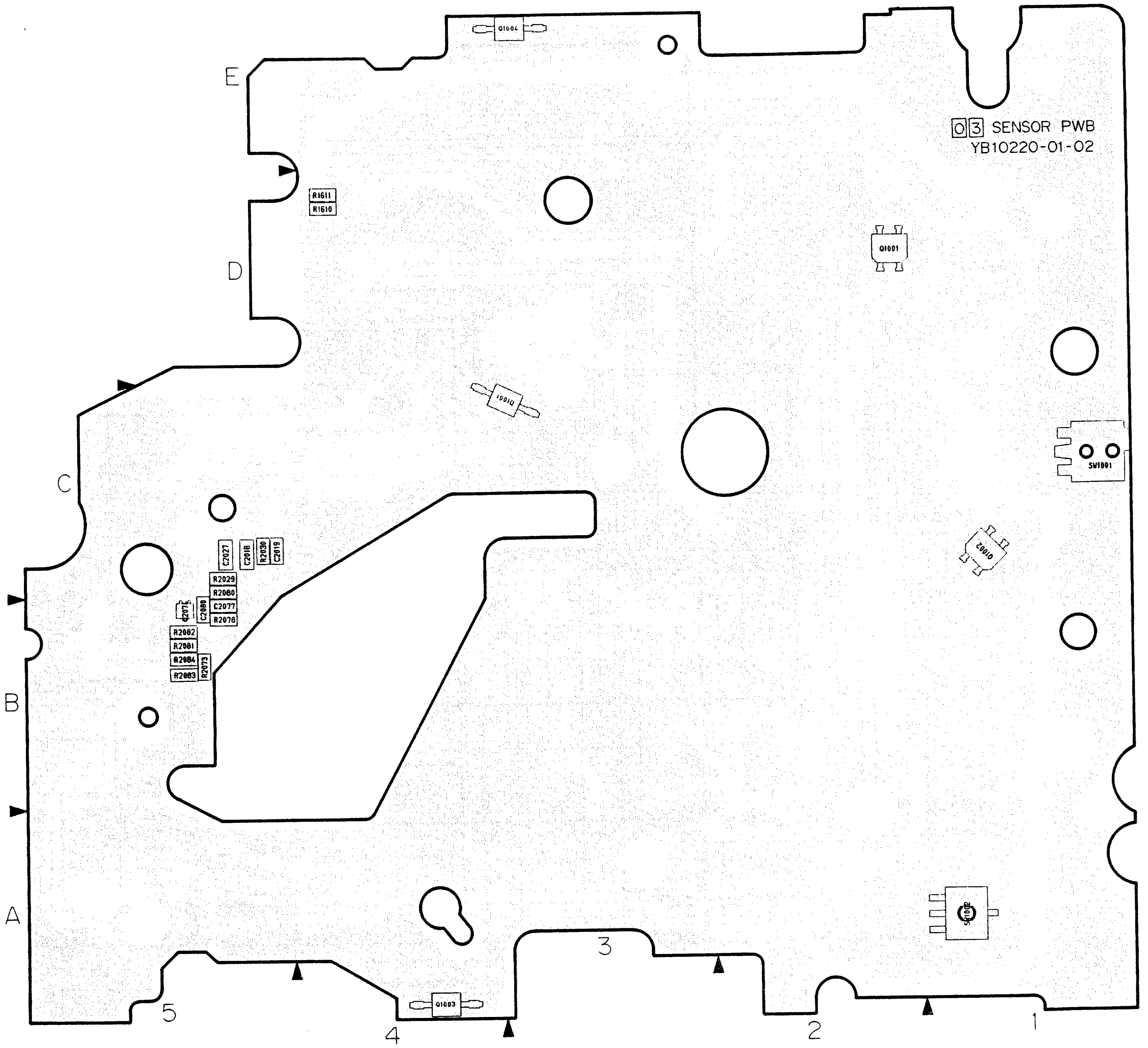

CN6
[37] REG_3.3V
(OPEN) SP_L
[7,8] REG_5V
[52,53,54] SIG_GND
[27] V_ENV
[59] V_PB_FM
[56] V_REC_L
[57] V_PB_CU
[58] V_REC_CU
[60] V_REC_FM
[55] V_DVL
[30] V_PB_L
[26] FEH_ON
[29] V_RC_MUT
TO SYSCON, Y/C, REG CN21 (Page4-19,20,21,30)
IC3501 M52385FP
Q3505 OPEN
R3512 OPEN
R3511 OPEN
R3513 27K
L3501 100µ
C3501 10/6.3
Q3509 2SC4617/QRS/-X
C3525 0.047
C3502 1.0
R3520 3.3K
R3519 680
R3521 OPEN
R3516 OPEN
R3509 680
C3522 0.01
R3510 OPEN
C3524 18P
Q3504 2SD2114K/UV/-X
R3508 680
C3521 10P
C3523 0.0033
C3520 0.0033
C3503 0.01
Q3508 OPEN
R3517 OPEN
R3518 OPEN
C3504 0.01
C3506 0.01
C3505 0.01
C3507 1.0
Q3904 DTA114EE
100µ
L3901
C3906 OPEN
C3903 0.01
L3902 56µ
L3904 1.5µ
L3903 56µ
C3901 150P
R3901 1.8K
C3902 OPEN
R3902 OPEN
C3907 OPEN
Q3905 DTC144EE
Q3906 OPEN
Q3901 2SC4617/R/-X
Q3902 2SC4617/R/-X
R3903 39K
R3904 39K
C3908 OPEN
C3904 100P
C3905 100P
R3905 10
R3906 10
Q3903 DTC114EE
FM AGC OUT
NC (ENV LPF)
ENV DET OUT
VCC 5V SW
VCC 5V
GND
CTL
ENV DC
CTSW2
NC (FM AGC)
REC BIAS FILTER
REC/PB
PB AMP OUT
C IN
Y IN
VCC 3.3V
MUTE
HEAD SW
NC
NC (FE VCC)
NC
FF
FE
OUT
GND
LOGIC
EP/SP
CTSW3
CH2/4 GND
CTSW4
NC
(REC PB SLOPE)
CTSW1
CH1/3 GND
ENV DET
AGC AMP
AGC DET
CURR AMP2
EP/SP AMP
V/I AMP
Y/C MIX
CURR AMP4
CURR AMP1
CURR AMP3
PBAMP 2/4
PBAMP 1/3
FE
LOGIC
C3518 0.0033
C3519 OPEN
R3507 OPEN
Q3503 2SD2114K/UV/-X
C3517 0.01
R3506 680
C3514 0.01
R3504 680
Q3502 2SD2114K/UV/-X
R3505 OPEN
C3515 0.0033
C3516 15P
R3514 10K
DTC144EE
Q3506
Q3507 DTC144EE
C3508 0.015
R3515 24K
R3522 8.2K
Q3501 2SD2114K/UV/-X
C3509 0.01
R3501 680
R3502 OPEN
C3510 0.0033
C3511 18P
C3513 0.0033
C3512 8P
R3503 680
CN5
FE_F [11]
FE_S [10]
TO FLY. E HEAD
V_CH2_S [8]
V_CH2_F [7]
V_CH4_S [6]
V_CH4_F [5]
V_CH1_S [4]
V_CH1_F [3]
V_CH3_S [2]
V_CH3_F [1]
TO VIDEO HEAD
C
Y
03 SENSOR (PRE/REC)
5
4
3
2
1
A
B
C
D
4-47
4-48
E
F
G
H

4.20 SENSOR CIRCUIT BOARD

FOIL SIDE (B)



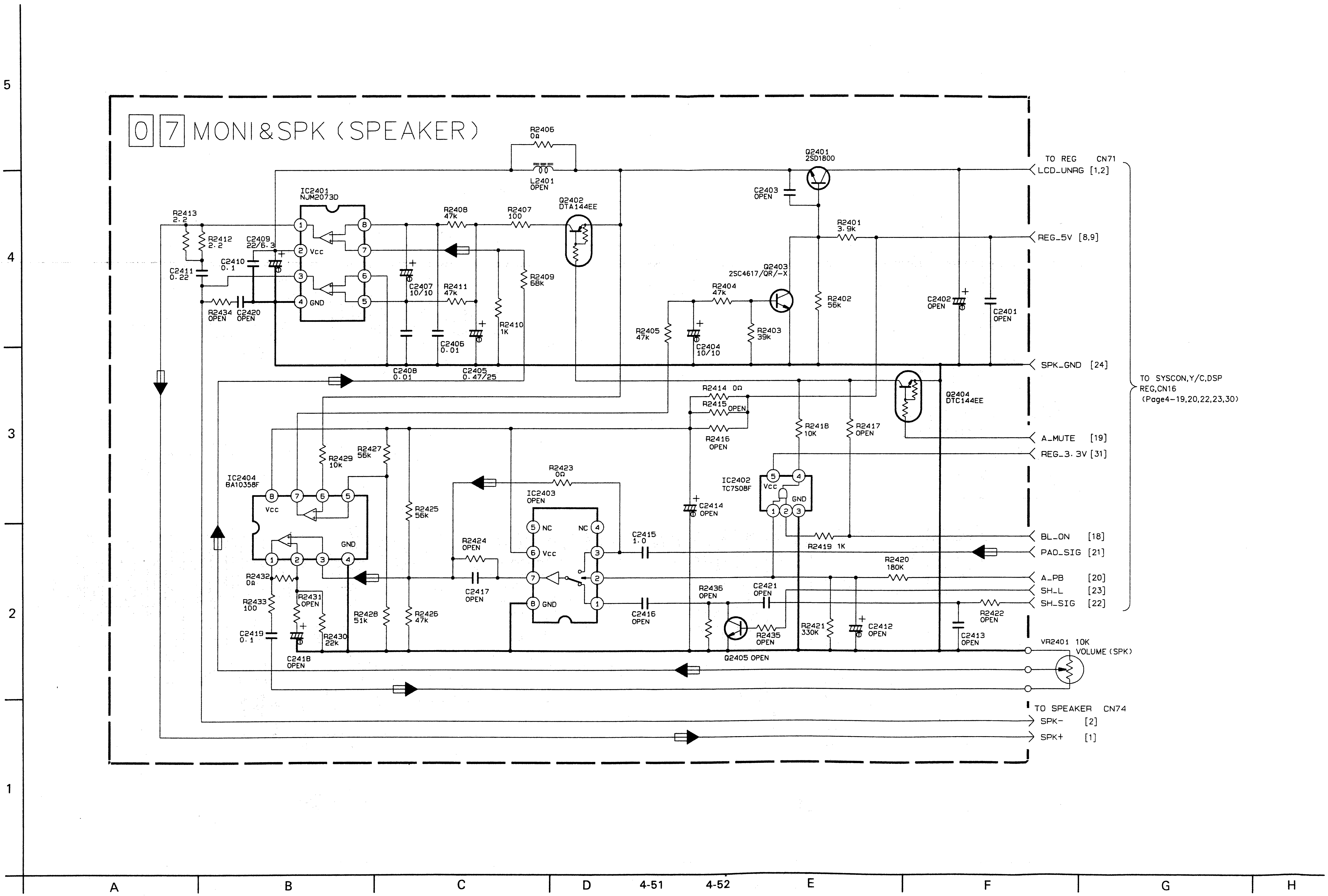
COMPONENT SIDE (A)



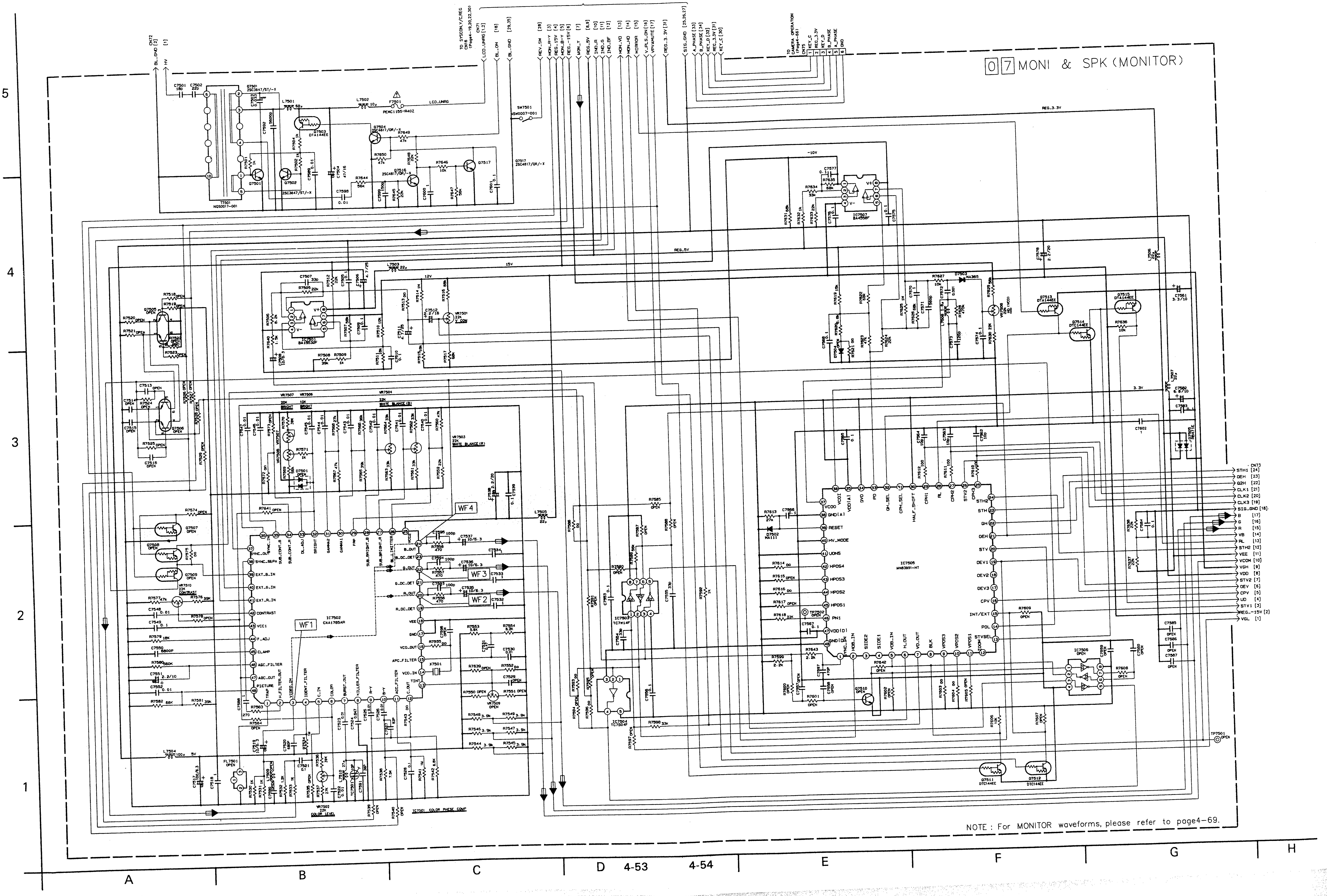
COMPONENT PARTS LOCATION GUIDE (SENSOR)

REF.No.	LOCATION		
CAPACITOR			
C1201	B	C	4E
C1202	B	C	4E
C1204	B	C	4D
C1205	B	C	4D
C1206	B	C	4D
C1601	B	C	5A
C1602	B	C	2C
C1603	B	C	2D
C1604	B	C	2C
C1605	B	C	2D
C1606	B	C	2D
C1607	B	C	2D
C1608	B	C	2D
C1609	B	C	2D
C1610	B	C	2D
C1611	B	C	2B
C1612	B	C	2B
C1613	B	C	2B
C1614	B	C	2D
C1615	B	C	2D
C1616	B	C	2D
C1617	B	C	2D
C1618	B	C	1D
C1619	B	C	1D
C1620	B	C	1D
C1621	B	C	1D
C1622	B	C	1C
C1623	B	C	1C
C1624	B	C	2C
C1625	B	C	2C
C1626	B	C	2C
C1627	B	C	2C
C1628	B	C	2C
C1629	B	C	2C
C1630	B	C	2D
C1631	B	C	2E
C1632	B	C	2E
C1633	B	C	2D
C1634	B	C	1B
C1635	B	C	1B
C1636	B	C	1B
C2001	B	C	3E
C2002	B	C	3E
C2003	B	C	3E
C2004	B	C	3E
C2005	B	C	3D
C2006	B	C	5C
C2007	B	C	5C
C2008	B	C	4C
C2009	B	C	4C
C2010	B	C	4D
C2011	B	C	4C
C2012	B	C	4C
C2013	B	C	4C
C2014	B	C	4C
C2015	B	C	4D
C2016	B	C	5C
C2017	B	C	5C
C2018	A	C	5C
C2019	A	C	5C
C2020	B	C	5C
C2021	B	C	5C
C2022	B	C	5C
C2023	B	C	4C
C2024	B	C	5C
C2025	B	C	3C
C2026	B	C	3C
C2027	A	C	5C
C2028	B	C	5C
C2029	B	C	3D
C2030	B	C	3C
C2031	B	C	2C
C2071	B	C	5B
C2073	B	C	5B
C2074	B	C	5B
C2075	B	C	5B
C2076	B	C	5B
C2077	A	C	5B
C2078	B	C	5B
C2079	B	C	5B
C2080	A	C	5B
C2081	B	C	5C
C2082	B	C	5A
C2083	B	C	5A
C3501	B	C	2B
C3502	B	C	3B
C3503	B	C	2B
C3504	B	C	2B
C3505	B	C	2B
C3506	B	C	2B
C3507	B	C	2A
C3508	B	C	2A
C3509	B	C	3A
C3510	B	C	3A
C3511	B	C	3A
C3512	B	C	3A
C3513	B	C	3A
C3514	B	C	3B
C3515	B	C	3B
C3516	B	C	3B
C3517	B	C	3B
C3518	B	C	3B
C3519	B	C	3B
C3520	B	C	3B
C3521	B	C	3B
C3522	B	C	3B
C3523	B	C	3B
C3524	B	C	3B
C3525	B	C	2B
C3901	B	C	3C
C3902	B	C	3C
C3903	B	C	3B
C3904	B	C	3C
C3905	B	C	3B
C3906	B	C	3B
C3907	B	C	3C
C3908	B	C	3C
CONNECTOR			
CN1	B	C	5A
CN2	B	C	1A
CN3	B	C	4D
CN4	B	C	5A
CN5	B	C	3B
CN6	B	C	1B
CN7	B	C	4D
CN8	B	C	5A
DIODE			
D1001	A	D	3C
D2001	B	C	3D
IC			
IC1201	B	C	4D
IC1601	B	C	2D
IC2001	B	C	5C
IC2071	B	C	5C
IC3501	B	C	3B
COIL			
L2001	B	C	3E
L2071	B	C	5A
L2072	B	C	5A
L2073	B	C	5A
L3501	B	C	3B
L3901	B	C	3B
L3902	B	C	3B
L3903	B	C	3C
L3904	B	C	4B
TRANSISTOR			
Q1001	A	C	2D
Q1002	A	C	1C
Q1003	A	D	4A
Q1004	A	D	3E
Q2001	B	C	3D
Q2002	B	C	3E
Q2003	B	C	3E
Q2004	B	C	3E
Q2005	B	C	4C
Q2006	B	C	4C
Q2007	B	C	4C
Q2008	B	C	4C
Q2009	B	C	3D
Q2010	B	C	3D
Q2011	B	C	3D
Q2012	B	C	3D
Q2013	B	C	3D
Q2019	B	C	3D
Q2020	B	C	3E
Q2021	B	C	5C
Q2071	B	C	5C
Q2072	B	C	5B
Q2073	B	C	5C
Q2074	A	C	5B
Q3501	B	C	3A
Q3502	B	C	3B
Q3503	B	C	3B
Q3504	B	C	3B
Q3505	B	C	2B
Q3506	B	C	2A
Q3507	B	C	2B
Q3508	B	C	3A
Q3509	B	C	2B
Q3901	B	C	3B
Q3902	B	C	3C
Q3903	B	C	3C
Q3904	B	C	3C
Q3905	B	C	3B
Q3906	B	C	3C
QA1601	B	C	2A
QA1602	B	C	1D
RESISTOR			
R1201	B	C	4D
R1202	B	C	4D
R1203	B	C	4D
R1204	B	C	4D
R1601	B	C	2C
R1602	B	C	2C
R1603	B	C	2D
R1604	B	C	2D
R1605	B	C	2D
R1606	B	C	2D
R1607	B	C	2D
R1608	B	C	2D
R1609	B	C	2D
R1610	A	C	4D
R1611	A	C	4D
R1612	B	C	1D
R1613	B	C	1D
R1614	B	C	1C
R1615	B	C	1C
R1616	B	C	1C
R1617	B	C	1C
R1618	B	C	2C
R1619	B	C	2C
R1620	B	C	1A
R1621	B	C	1A
R1622	B	C	1A
R1623	B	C	1D
R1624	B	C	1D
R1625	B	C	2B
R1626	B	C	2B
R1627	B	C	2D
R1628	B	C	2B
R1629	B	C	2D
R2001	B	C	3D
R2002	B	C	3D
R2003	B	C	3E
R2004	B	C	3E
R2005	B	C	3E
R2006	B	C	3E
R2007	B	C	3E
R2008	B	C	3E
R2009	B	C	3D
R2010	B	C	4D
R2011	B	C	4D
R2012	B	C	4C
R2013	B	C	4C
R2014	B	C	4C
R2015	B	C	4C
R2016	B	C	4C
R2017	B	C	4C
R2018	B	C	5C
R2019	B	C	4C
R2020	B	C	4C
R2021	B	C	4C
R2022	B	C	4C
R2023	B	C	4C
R2024	B	C	4C
R2025	B	C	4C
R2026	B	C	4C
R2027	B	C	4C
R2028	B	C	5C
R2029	A	C	5C
R2030	A	C	5C
R2031	B	C	5C
R2032	B	C	5C
R2033	B	C	5C
R2034	B	C	5C
R2035	B	C	5C
R2036	B	C	3C
R2037	B	C	3C
R2038	B	C	3C
R2039	B	C	4C
R2040	B	C	3D
R2041	B	C	4D
R2042	B	C	3D
R2043	B	C	3D
R2044	B	C	4D
R2045	B	C	4D
R2046	B	C	3D
R2052	B	C	5C
R2056	B	C	4D
R2057	B	C	3E
R2058	B	C	3E
R2059	B	C	5C
R2060	B	C	5C
R2061	B	C	3D
R2062	B	C	3D
R2063	B	C	3D
R2071	B	C	5A
R2072	B	C	5A
R2073	A	C	5B
R2074	B	C	5B
R2075	B	C	5B
R2076	B	C	5B
R2077	B	C	5B
R2078	A	C	5B
R2079	B	C	5B
R2080	A	C	5C
R2081	A	C	5B
R2082	A	C	5B
R2083	A	C	5B
R2084	A	C	5B
R2085	B	C	5A
R2086	B	C	5A
R3501	B	C	3A
R3502	B	C	3A
R3503	B	C	3B
R3504	B	C	3B
R3505	B	C	3B
R3506	B	C	3B
R3507	B	C	3B
R3508	B	C	3B
R3509	B	C	3B
R3510	B	C	3B
R3511	B	C	2B
R3512	B	C	3B
R3513	B	C	2B
R3514	B	C	2A
R3515	B	C	2A
R3516	B	C	3B
R3517	B	C	2A
R3518	B	C	2A
R3519	B	C	2B
R3520	B	C	2B
R3521	B	C	2B
R3522	B	C	3A
R3901	B	C	3C
R3902	B	C	3C
R3903	B	C	3C
R3904	B	C	3B
R3905	B	C	3B
R3906	B	C	3C
OTHER			
SW1001	A	C	1C
SW1002	A	C	1A
T2001	B	C	3E

4.21 SPEAKER SCHEMATIC DIAGRAM


07 MONI&SPK (SPEAKER)
R2406 0Ω
L2401 OPEN
Q2401 2SD1800
C2403 OPEN
TO REG CN71
LCD_UNRG [1,2]
IC2401 NJM2073D
R2413 2.2
R2412 2.2
C2409 22/6.3
C2410 0.1
C2411 0.22
Vcc
GND
R2434 OPEN
C2420 OPEN
R2408 47k
R2407 100
Q2402 DTA144EE
R2409 68k
C2407 10/10
R2411 47k
R2410 1K
C2406 0.01
C2408 0.01
C2405 0.47/25
R2401 3.9k
REG_5V [8,9]
Q2403 2SC4617/QR/-X
R2404 47k
R2402 56k
R2403 39k
R2405 47k
C2404 10/10
C2402 OPEN
C2401 OPEN
SPK_GND [24]
R2414 0Ω
R2415 OPEN
R2416 OPEN
R2418 10K
R2417 OPEN
Q2404 DTC144EE
TO SYSCON,Y/C,DSP REG,CN16 (Page4-19,20,22,23,30)
A_MUTE [19]
REG_3.3V [31]
IC2404 BA10358F
R2429 10k
R2427 56k
R2425 56k
R2423 0Ω
IC2403 OPEN
NC
IC2402 TC7S08F
C2414 OPEN
C2415 1.0
R2419 1K
BL_ON [18]
PAO_SIG [21]
R2420 180K
A_PB [20]
SH_L [23]
SH_SIG [22]
R2424 OPEN
C2417 OPEN
R2432 0Ω
R2433 100
R2431 OPEN
R2430 22k
C2419 0.1
C2418 OPEN
R2428 51k
R2426 47k
C2416 OPEN
R2436 OPEN
C2421 OPEN
R2435 OPEN
Q2405 OPEN
R2421 330K
C2412 OPEN
R2422 OPEN
C2413 OPEN
VR2401 10K VOLUME (SPK)
TO SPEAKER CN74
SPK- [2]
SPK+ [1]
1
2
3
4
5
A
B
C
D
E
F
G
H

4.22 MONITOR SCHEMATIC DIAGRAM

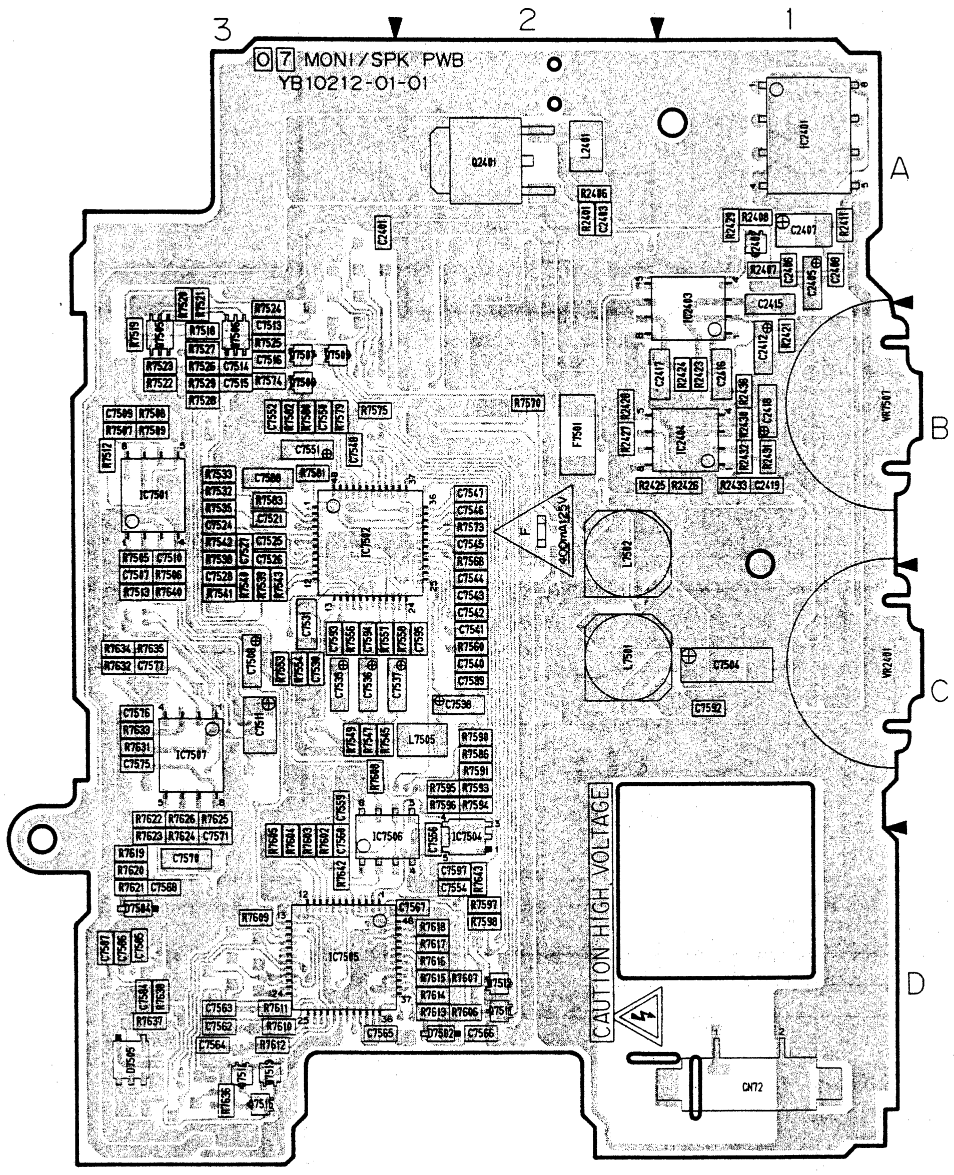


07 MONI & SPK (MONITOR)
TO SYSCON,Y/C,REG CN16 (Page4-19,20,22,30)
TO CAMERA OPERATION (Page4-66) CN75
CN72
BL_GND
HV
LCD_UNREG
BL_ON
BL_GND
REV_SW
MON_R-Y
REG_15V
MON_B-Y
REG_-15V
MON_Y
REG_5V
IND_R
IND_G
IND_BF
MON_VD
MON_HD
MIRROR
V_PLS_ON
VPV.WHITE
REG_3.3V
SIG_GND
A_PHASE
B_PHASE
KEY_D
REG_3.3V
KEY_C
T7501
Q7501 2SC3647/ST/-X
Q7502
Q7503 DTA144EE
Q7504 2SC4617/QR/-X
Q7516
Q7517 2SC4617/QR/-X
L7501
L7502
F7501
PEMC1155-R40Z
SW7501
IC7501 BA15532F
IC7502 CXA1785AR
IC7503 TC7W14F
IC7504 TC7S04F
IC7505 MN83951-HT
IC7506
IC7507 BA4558F
VR7501 V_COM
VR7502 COLOR LEVEL
VR7503 WHITE BLANCE (R)
VR7504 WHITE BLANCE (B)
VR7506 BRIGHT
VR7507 SUB BRIGHT
VR7509
VR7510 CONTRAST
X7501
Q7513 DTA144EE
Q7514 DTC144EE
Q7515 DTA144EE
Q7511 DTC144EE
Q7512 DTC144EE
Q7510
D7501
D7502 MA111
D7503 MA365
L7503
L7504
L7505
L7506
L7507
WF1
WF2
WF3
WF4
TP7501
TP7502
REG_3.3V
REG_5V
15V
12V
5V
3.3V
-10V
CN73
STH1 [24]
QEH [23]
Q2H [22]
CLK1 [21]
CLK2 [20]
CLK3 [19]
SIG_GND [18]
B [17]
G [16]
R [15]
VB [14]
RL [13]
STH2 [12]
VEE [11]
VCOM [10]
VGH [9]
VDD [8]
STV2 [7]
DEV [6]
CPV [5]
UD [4]
STV1 [3]
REG_-15V [2]
VGL [1]
IC7505 pins: VCOO, GND(A), RESET, HV_MODE, UONS, HPOS4, HPOS3, HPOS2, HPOS1, PN1, VDD(D), GND(D), VCOI, VDD(A), DVD, PD, GH_SEL, HALF_SHIFT, CPH1, RL, CPH2, STV2, CPH3, STH2, STH, GH, OEH, STV, OEV1, OEV2, OEV3, CPV, INT/EXT, POL, STVSEL, ZOOM, VPOS1, VPOS2, VPOS3, BLK, VD_OUT, H_OUT, VDB_IN, SIDE1, SIDE2, HDB_IN, VND_IN
IC7502 pins: SYNC_OUT, SYNC_SEPA, EXT_B_IN, EXT_G_IN, EXT_R_IN, CONTRAST, VCC1, F_ADJ, CLAMP, AGC_FILTER, AGC_OUT, PICTURE, TRAP, Y_FILTER_OUT, VIDEO_IN, IDENT_FILTER, C_IN, COLOR, BURST_OUT, KILLER_FILTER, R-Y, B-Y, ACC_FILTER, C_OUT, TINT, VCO_IN, APC_FILTER, VCO_OUT, GND, VEE, R_DC_DET, R_OUT, G_DC_DET, G_OUT, B_DC_DET, B_OUT, BL_LIMITTER, SUB_BRIGHT_R, SUB_BRIGHT_B, FBP, GAMMA1, GAMMA2, BRIGHT, DL_ADJ, SUB_CONT_R, SUB_CONT_B, SYNC_IN
IC7501 COLOR PHESE COMP
A
B
C
D
E
F
G
H
1
2
3
4
5

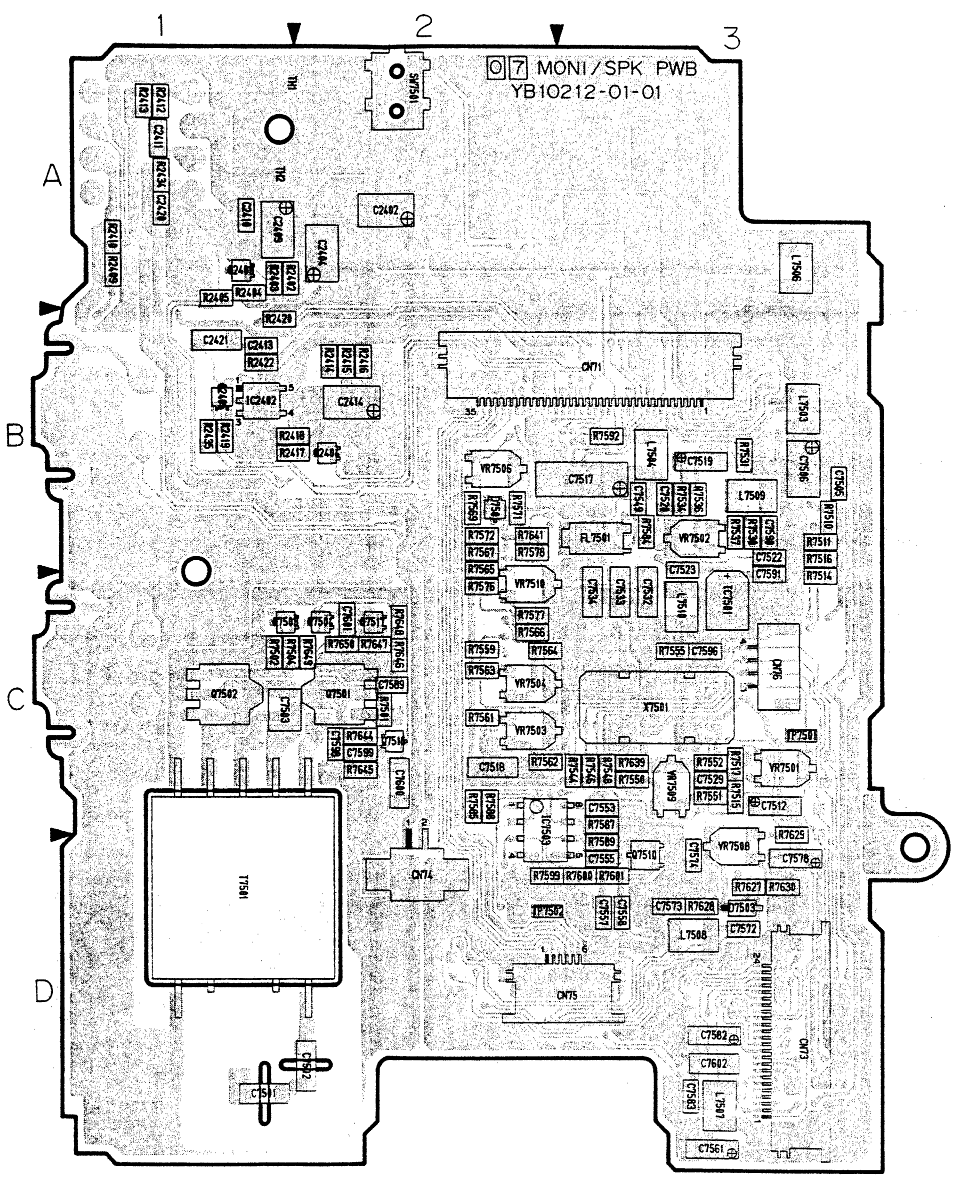
NOTE : For MONITOR waveforms, please refer to page4-69.

4.23 MONITOR AND SPEAKER CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT SIDE (A)

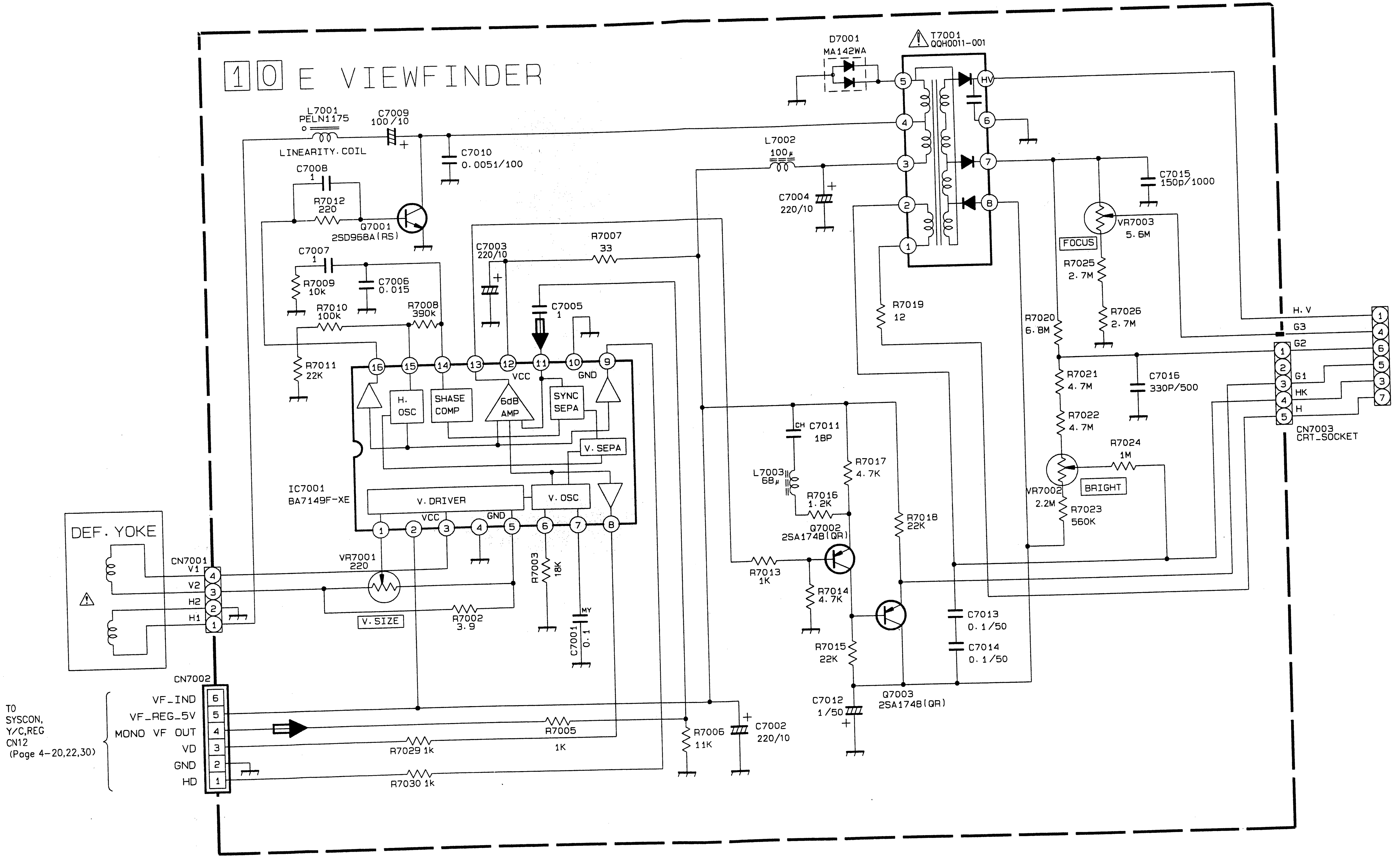


COMPONENT PARTS LOCATION GUIDE (MONITOR & SPEAKER)

REF.No.	LOCATION		
CAPACITOR			
C2401	B	C	3A
C2402	A	C	2A
C2403	B	C	2A
C2404	A	C	2A
C2405	B	C	1A
C2406	B	C	1A
C2407	B	C	1A
C2408	B	C	1A
C2409	A	C	1A
C2410	A	C	1A
C2411	A	C	1A
C2412	B	C	1B
C2413	A	C	1B
C2414	A	C	2B
C2415	B	C	1B
C2416	B	C	1B
C2417	B	C	2B
C2418	B	C	1B
C2419	B	C	1B
C2420	A	C	1A
C2421	A	C	1B
C7501	A	C	1D
C7502	A	C	2D
C7503	A	C	1C
C7504	B	C	1C
C7505	A	C	3B
C7506	A	C	3B
C7507	B	C	3C
C7508	B	C	3C
C7509	B	C	3B
C7510	B	C	3B
C7511	B	C	3C
C7512	A	C	3C
C7513	B	C	3B
C7514	B	C	3B
C7515	B	C	3B
C7516	B	C	3B
C7517	A	C	3B
C7518	A	C	2C
C7519	A	C	3B
C7520	A	C	3B
C7521	B	C	3B
C7522	A	C	3B
C7523	A	C	3B
C7524	B	C	3B
C7525	B	C	3B
C7526	B	C	3B
C7527	B	C	3B
C7528	B	C	3C
C7529	A	C	3C
C7530	B	C	3C
C7531	B	C	3C
C7532	A	C	3C
C7533	A	C	3C
C7534	A	C	3C
C7535	B	C	3C
C7536	B	C	3C
C7537	B	C	3C
C7538	B	C	2C
C7539	B	C	2C
C7540	B	C	2C
C7541	B	C	2C
C7542	B	C	2C
C7543	B	C	2C
C7544	B	C	2C
C7545	B	C	2B
C7546	B	C	2B
C7547	B	C	2B
C7548	B	C	3B
C7549	A	C	3B
C7550	B	C	3B
C7551	B	C	3B
C7552	B	C	3B
C7553	A	C	3C
C7554	B	C	2D
C7555	A	C	3D
C7556	B	C	2D
C7557	A	C	3D
C7558	A	C	3D
C7559	B	C	3C
C7560	B	C	3D
C7561	A	C	3D
C7562	B	C	3D
C7563	B	C	3D
C7564	B	C	3D
C7565	B	C	3D
C7566	B	C	2D
C7567	B	C	2D
C7568	B	C	3D
C7570	B	C	3D
C7571	B	C	3D
C7572	A	C	3D
C7573	A	C	3D
C7574	A	C	3D
C7575	B	C	3C
C7576	B	C	3C
C7577	B	C	3C
C7578	A	C	3D
C7582	A	C	3D
C7583	A	C	3D
C7584	B	C	3D
C7585	B	C	3D
C7586	B	C	3D
C7587	B	C	3D
C7588	B	C	3B
C7589	A	C	2C
C7590	A	C	3B
C7591	A	C	3C
C7592	B	C	1C
C7593	B	C	3C
C7594	B	C	3C
C7595	B	C	2C
C7596	A	C	3C
C7597	B	C	2D
C7598	A	C	2C
C7599	A	C	2C
C7600	A	C	2C
C7601	A	C	2C
C7602	A	C	3D
CONNECTOR			
CN71	A	C	3B
CN72	B	C	1D
CN73	A	C	3D
CN74	A	C	2D
CN75	A	C	2D
CN76	A	C	3C
DIODE			
D7501	A	C	2B
D7502	B	C	2D
D7503	A	C	3D
D7504	B	C	3D
D7505	B	C	3D
IC			
IC2401	B	D	1A
IC2402	A	C	1B
IC2403	B	C	1B
IC2404	B	C	1B
IC7501	B	C	3B
IC7502	B	C	3B
IC7503	A	C	2C
IC7504	B	C	2D
IC7505	B	C	3D
IC7506	B	C	3D
IC7507	B	C	3C
COIL			
L2401	B	C	2A
L7501	B	C	2C
L7502	B	C	2B
L7503	A	C	3B
L7504	A	C	3B
L7505	B	C	2C
L7506	A	C	3A
L7507	A	C	3D
L7508	A	C	3D
L7509	A	C	3B
L7510	A	C	3C
TRANSISTOR			
Q2401	B	C	2A
Q2402	B	C	1A
Q2403	A	C	1A
Q2404	A	C	2B
Q2405	A	C	1B
Q7501	A	C	2C
Q7502	A	C	1C
Q7503	A	C	1C
Q7504	A	C	2C
Q7505	B	C	3B
Q7506	B	C	3B
Q7507	B	C	3B
Q7508	B	C	3B
Q7509	B	C	3B
Q7510	A	C	3D
Q7511	B	C	2D
Q7512	B	C	2D
Q7513	B	C	3D
Q7514	B	C	3D
Q7515	B	C	3D
Q7516	A	C	2C
Q7517	A	C	2C
RESISTOR			
R2401	B	C	2A
R2402	A	C	1A
R2403	A	C	1A
R2404	A	C	1A
R2405	A	C	1A
R2406	B	C	2A
R2407	B	C	1A
R2408	B	C	1A
R2409	A	C	1A
R2410	A	C	1A
R2411	B	C	1A
R2412	A	C	1A
R2413	A	C	1A
R2414	A	C	2B
R2415	A	C	2B
R2416	A	C	2B
R2417	A	C	2B
R2418	A	C	2B
R2419	A	C	1B
R2420	A	C	1B
R2421	B	C	1B
R2422	A	C	1B
R2423	B	C	1B
R2424	B	C	1B
R2425	B	C	2B
R2426	B	C	1B
R2427	B	C	2B
R2428	B	C	2B
R2429	B	C	1A
R2430	B	C	1B
R2431	B	C	1B
R2432	B	C	1B
R2433	B	C	1B
R2434	A	C	1A
R2435	A	C	1B
R2436	B	C	1B
R7501	A	C	2C
R7502	A	C	1C
R7504	A	C	1C
R7505	B	C	3B
R7506	B	C	3C
R7507	B	C	3B
R7508	B	C	3B
R7509	B	C	3B
R7510	A	C	3B
R7511	A	C	3B
R7512	B	C	3B
R7513	B	C	3C
R7514	A	C	3C
R7515	A	C	3C
R7516	A	C	3B
R7517	A	C	3C
R7518	B	C	3B
R7519	B	C	3B
R7520	B	C	3B
R7521	B	C	3B
R7522	B	C	3B
R7523	B	C	3B
R7524	B	C	3B
R7525	B	C	3B
R7526	B	C	3B
R7527	B	C	3B
R7528	B	C	3B
R7529	B	C	3B
R7530	A	C	3B
R7531	A	C	3B
R7532	B	C	3B
R7533	B	C	3B
R7534	A	C	3B
R7535	B	C	3B
R7536	A	C	3B
R7537	A	C	3B
R7538	B	C	3B
R7539	B	C	3C
R7540	B	C	3C
R7541	B	C	3C
R7542	B	C	3B
R7543	B	C	3C
R7544	A	C	3C
R7545	B	C	3C
R7546	A	C	3C
R7547	B	C	3C
R7548	A	C	3C
R7549	B	C	3C
R7550	A	C	3C
R7551	A	C	3C
R7552	A	C	3C
R7553	B	C	3C
R7554	B	C	3C
R7555	A	C	3C
R7556	B	C	3C
R7557	B	C	3C
R7558	B	C	3C
R7559	A	C	2C
R7560	B	C	2C
R7561	A	C	2C
R7562	A	C	2C
R7563	A	C	2C
R7564	A	C	2C
R7565	A	C	2B
R7566	A	C	2C
R7567	A	C	2B
R7568	B	C	2B
R7569	A	C	2B
R7570	B	C	2B
R7571	A	C	2B
R7572	A	C	2B
R7573	B	C	2B
R7574	B	C	3B
R7575	B	C	3B
R7576	A	C	2C
R7577	A	C	2C
R7578	A	C	2B
R7579	B	C	3B
R7580	B	C	3B
R7581	B	C	3B
R7582	B	C	3B
R7583	B	C	3B
R7584	A	C	3B
R7585	A	C	2C
R7586	B	C	2C
R7587	A	C	3C
R7588	A	C	2C
R7589	A	C	3D
R7590	B	C	2C
R7591	B	C	2C
R7592	A	C	3B
R7593	B	C	2C
R7594	B	C	2C
R7595	B	C	2C
R7596	B	C	2C
R7597	B	C	2D
R7598	B	C	2D
R7599	A	C	2D
R7600	A	C	3D
R7601	A	C	3D
R7602	B	C	3D
R7603	B	C	3D
R7604	B	C	3D
R7605	B	C	3D
R7606	B	C	2D
R7607	B	C	2D
R7608	B	C	3C
R7609	B	C	3D
R7610	B	C	3D
R7611	B	C	3D
R7612	B	C	3D
R7613	B	C	2D
R7614	B	C	2D
R7615	B	C	2D
R7616	B	C	2D
R7617	B	C	2D
R7618	B	C	2D
R7619	B	C	3D
R7620	B	C	3D
R7621	B	C	3D
R7622	B	C	3C
R7623	B	C	3D
R7624	B	C	3D
R7625	B	C	3C
R7626	B	C	3C
R7627	A	C	3D
R7628	A	C	3D
R7629	A	C	3C
R7630	A	C	3D
R7631	B	C	3C
R7632	B	C	3C
R7633	B	C	3C
R7634	B	C	3C
R7635	B	C	3C
R7636	B	C	3D
R7637	B	C	3D
R7638	B	C	3D
R7639	A	C	3C
R7640	B	C	3C
R7641	A	C	2B
R7642	B	C	3D
R7643	B	C	2D
R7644	A	C	2C
R7645	A	C	2C
R7646	A	C	2C
R7647	A	C	2C
R7648	A	C	2C
R7649	A	C	2C
R7650	A	C	2C
TEST POINT			
TP7501	A	C	3C
TP7502	A	C	2D
OTHER			
F7501	B	C	2B
FL7501	A	C	3B
SW7501	A	C	2A
T7501	A	C	1D
TC7501	A	C	3C
VR2401	A	D	1C
VR7501	A	C	3C
VR7502	A	C	3B
VR7503	A	C	2C
VR7504	A	C	2C
VR7506	A	C	2B
VR7507	A	D	1B
VR7508	A	C	3D
VR7509	A	C	3C
VR7510	A	C	2C
X7501	A	C	3C

4.24 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM

<TYPE T>

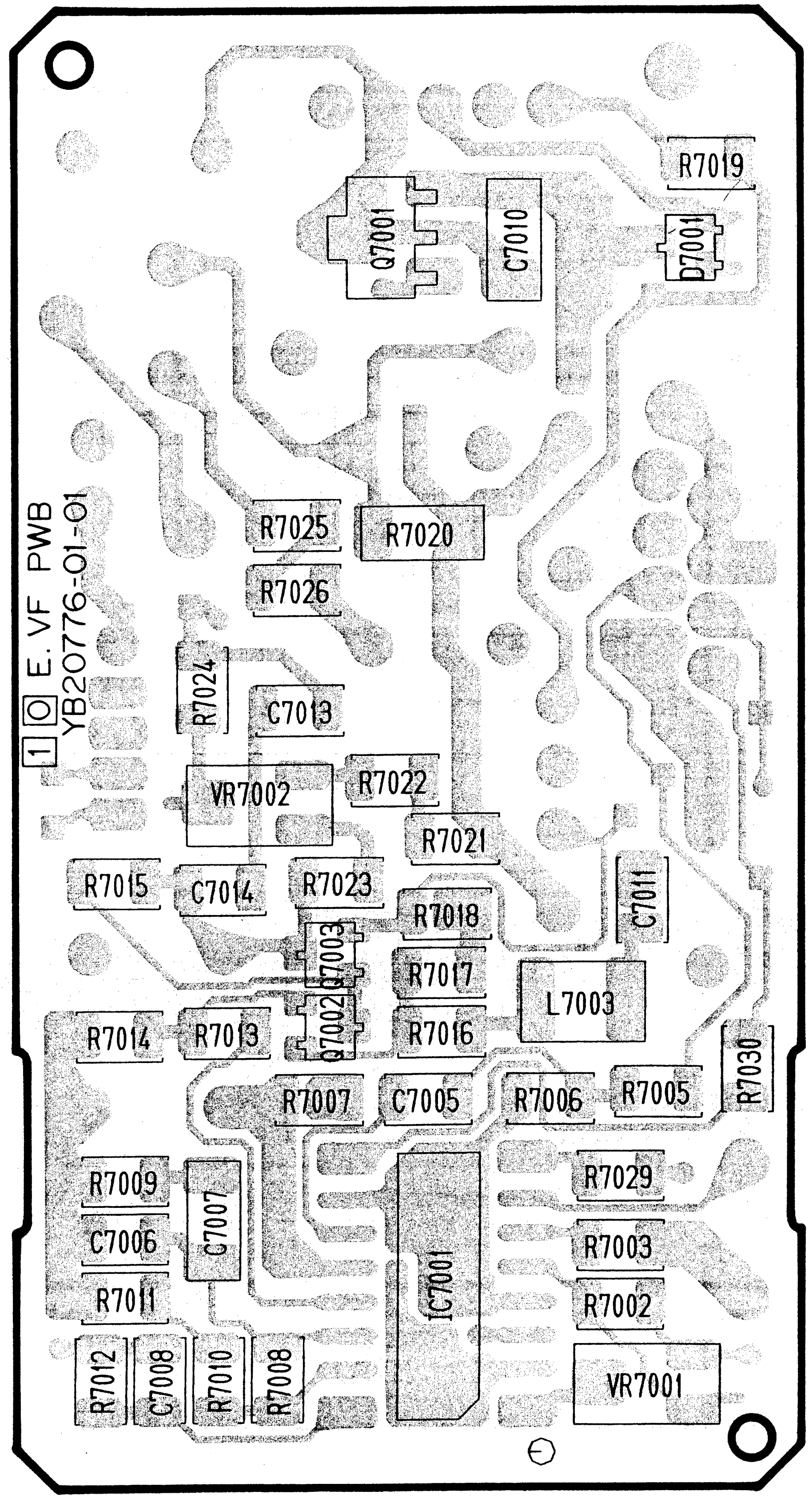


10 E VIEWFINDER
L7001
PELN1175
LINEARITY. COIL
C7009
100/10
C7010
0.0051/100
C7008
1
R7012
220
Q7001
2SD968A(RS)
C7007
1
R7009
10k
C7006
0.015
R7010
100k
R7008
390k
R7011
22K
C7003
220/10
R7007
33
C7005
1
VCC
GND
H. OSC
SHASE COMP
6dB AMP
SYNC SEPA
V. SEPA
V. DRIVER
V. OSC
IC7001
BA7149F-XE
VR7001
220
V. SIZE
R7002
3.9
R7003
18K
C7001
0.1
MY
DEF. YOKE
CN7001
V1
V2
H2
H1
CN7002
VF_IND
VF_REG_5V
MONO VF OUT
VD
GND
HD
TO SYSCON, Y/C,REG CN12 (Page 4-20,22,30)
R7029 1k
R7030 1k
R7005
1K
R7006
11K
C7002
220/10
D7001
MA142WA
T7001
QQH0011-001
HV
L7002
100µ
C7004
220/10
C7015
150p/1000
VR7003
5.6M
FOCUS
R7025
2.7M
R7026
2.7M
R7020
6.8M
R7019
12
R7021
4.7M
R7022
4.7M
C7016
330P/500
R7024
1M
BRIGHT
VR7002
2.2M
R7023
560K
C7011
18P
CH
L7003
68µ
R7017
4.7K
R7016
1.2K
Q7002
2SA1748(QR)
R7018
22K
R7013
1K
R7014
4.7K
R7015
22K
C7012
1/50
Q7003
2SA1748(QR)
C7013
0.1/50
C7014
0.1/50
H.V
G3
G2
G1
HK
H
CN7003
CRT_SOCKET
5
4
3
2
1
A
B
C
D
E
F
G
H

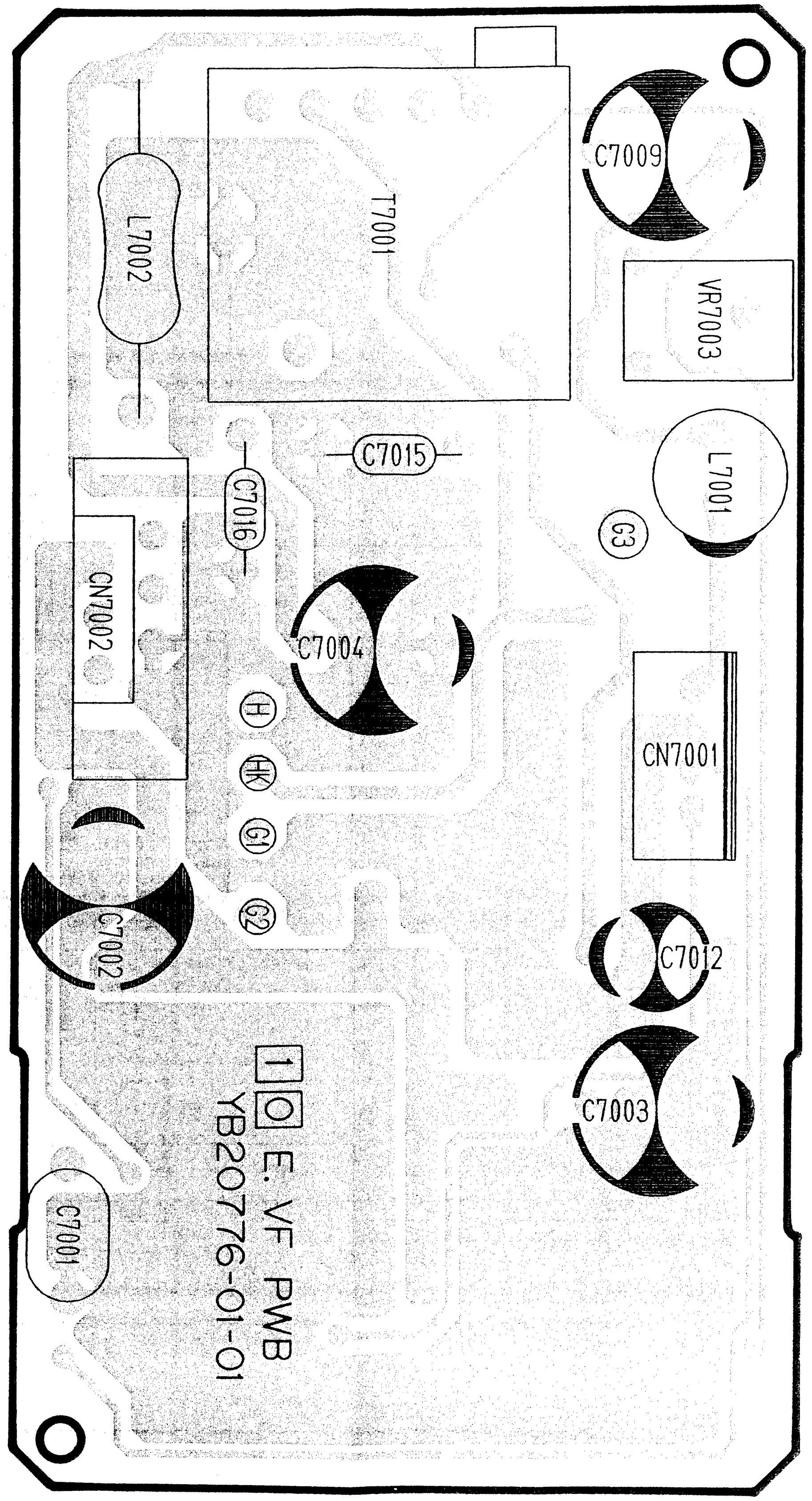
4.25 ELECTRONIC VIEWFINDER CIRCUIT BOARD

<TYPE T>

FOIL SIDE (B)

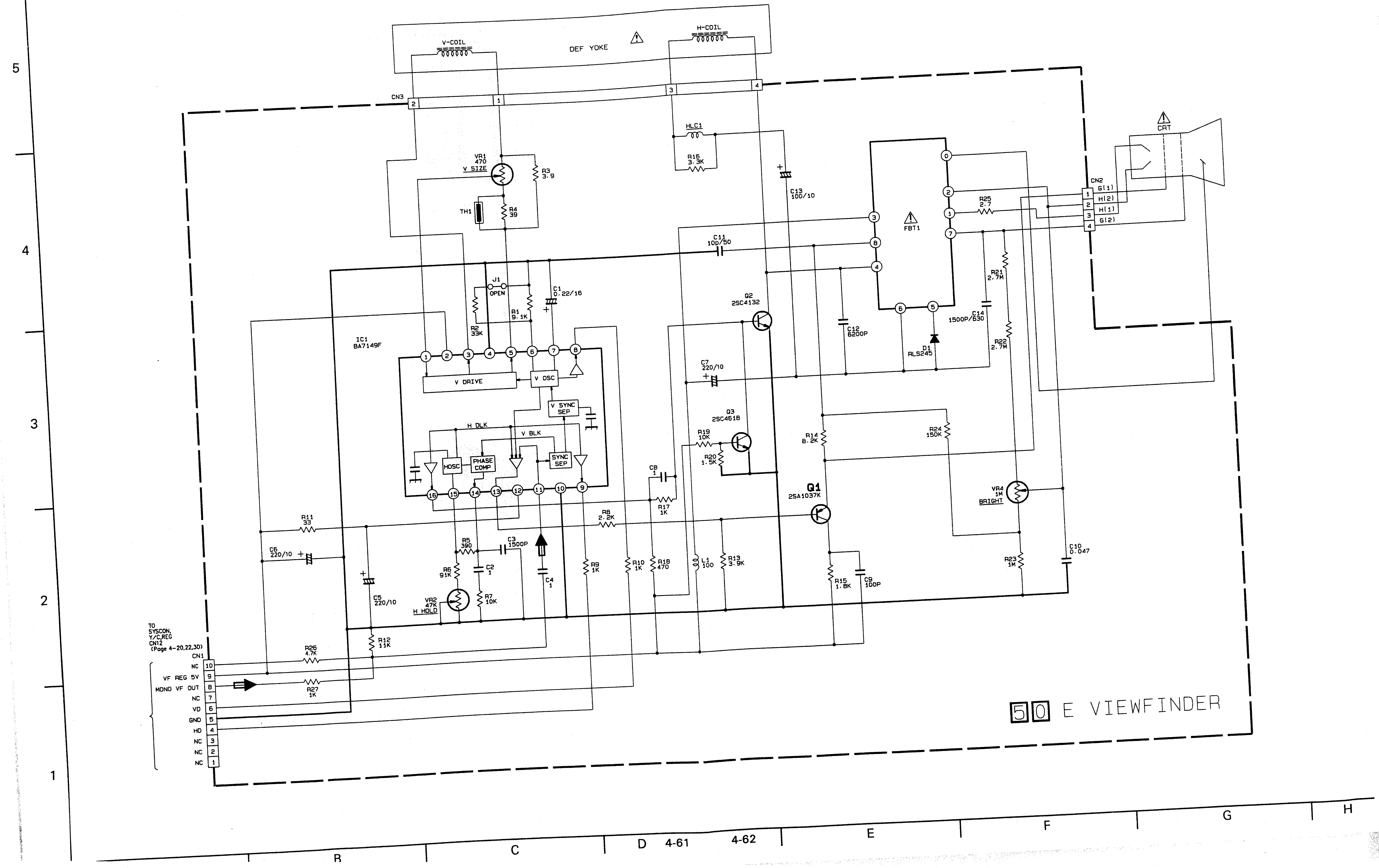

R7019
Q7001
C7010
D7001
1 O E. VF PWB
YB20776-01-01
R7025
R7020
R7026
R7024
C7013
VR7002
R7022
R7021
R7015
C7014
R7023
R7018
C7011
Q7003
R7017
L7003
R7014
R7013
Q7002
R7016
R7030
R7007
C7005
R7006
R7005
R7009
C7007
R7029
C7006
IC7001
R7003
R7011
R7002
R7012
C7008
R7010
R7008
VR7001

COMPONENT SIDE (A)


C7009
L7002
T7001
VR7003
C7015
L7001
C7016
G3
CN7002
C7004
H
HK
G1
G2
CN7001
C7002
C7012
C7003
C7001
1 O E. VF PWB
YB20776-01-01

4.26 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM

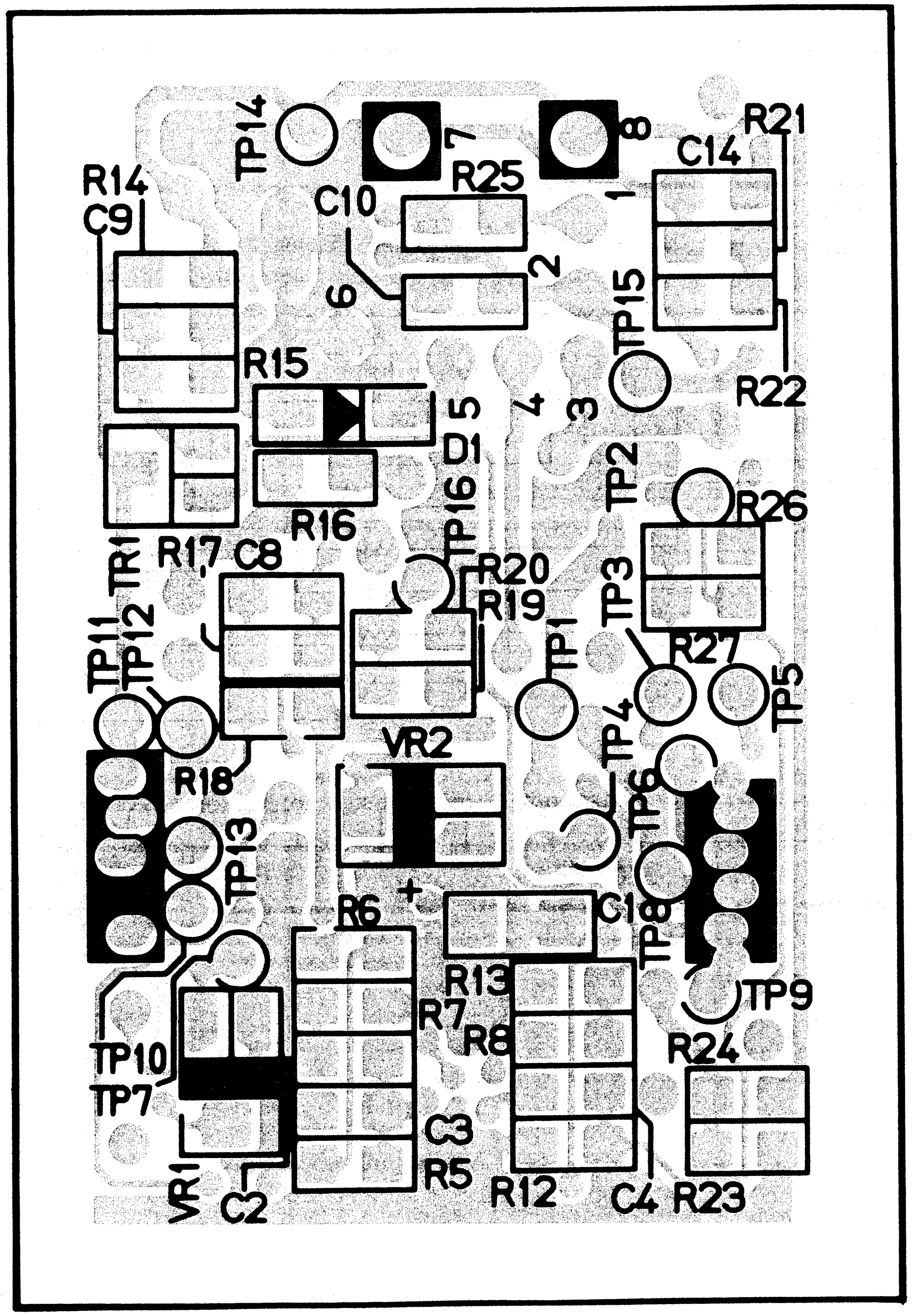
<TYPE M>


V-COIL
DEF YOKE
H-COIL
CN3
2
1
3
4
HLC1
R16
3.3K
C13
100/10
VR1
470
V SIZE
R3
3.9
TH1
R4
39
FBT1
CRT
CN2
1 G(1)
2 H(2)
3 H(1)
4 G(2)
R25
2.7
C11
10p/50
J1
OPEN
C1
0.22/16
R1
9.1K
R2
33K
Q2
2SC4132
C12
6200P
D1
RLS245
C14
1500P/630
R21
2.7M
R22
2.7M
IC1
BA7149F
V DRIVE
V OSC
V SYNC SEP
H DLK
V BLK
HOSC
PHASE COMP
SYNC SEP
C7
220/10
Q3
2SC4618
R19
10K
R20
1.5K
R14
8.2K
R24
150K
C8
1
R17
1K
Q1
2SA1037K
VR4
1M
BRIGHT
R11
33
R8
2.2K
C6
220/10
C5
220/10
R5
390
C3
1500P
R6
91K
C2
1
C4
1
VR2
47K
H HOLD
R7
10K
R9
1K
R10
1K
R18
470
L1
100
R13
3.9K
R15
1.8K
C9
100P
R23
1M
C10
0.047
R12
11K
TO SYSCON, Y/C,REG CN12 (Page 4-20,22,30)
CN1
NC 10
VF REG 5V 9
MONO VF OUT 8
NC 7
VD 6
GND 5
HD 4
NC 3
NC 2
NC 1
R26
4.7K
R27
1K
50 E VIEWFINDER
5
4
3
2
1
B
C
D
E
F
G
H

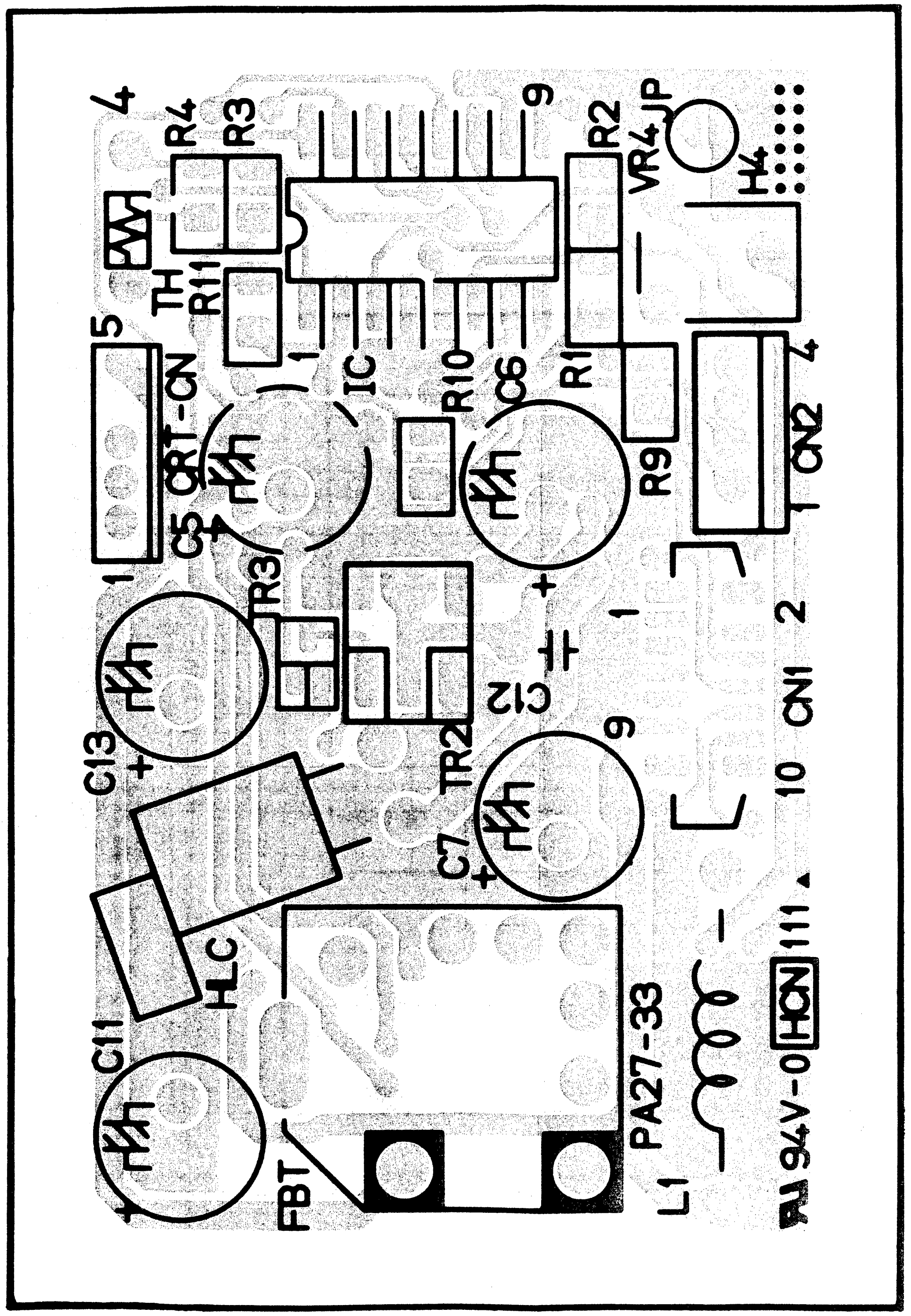
4.27 ELECTRONIC VIEWFINDER CIRCUIT BOARD

(TYPE M)

–FOIL SIDE (B)–

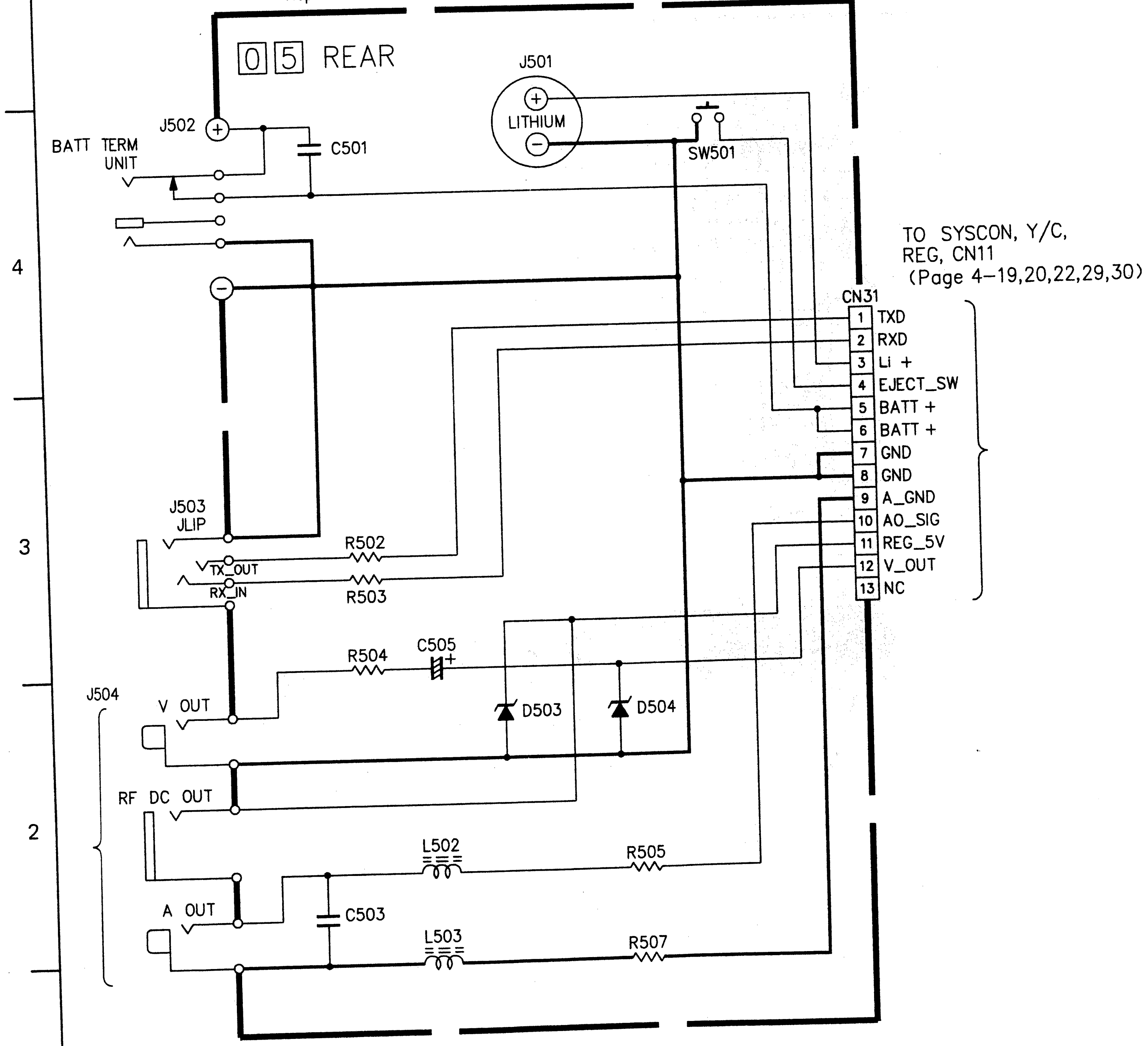

TP14
7
8
R21
R25
C14
R14
C9
C10
1
2
6
TP15
R15
D1
5
4
3
R22
TP2
R26
R16
TP16
R17
C8
TR1
R20
R19
TP3
TP11
TP12
TP1
R27
TP4
TP5
R18
VR2
TP6
TP13
R6
C18
TP8
R13
R7
R8
TP9
R24
TP10
TP7
C3
R5
R12
C4
R23
VR1
C2

–COMPONENT SIDE (A)–

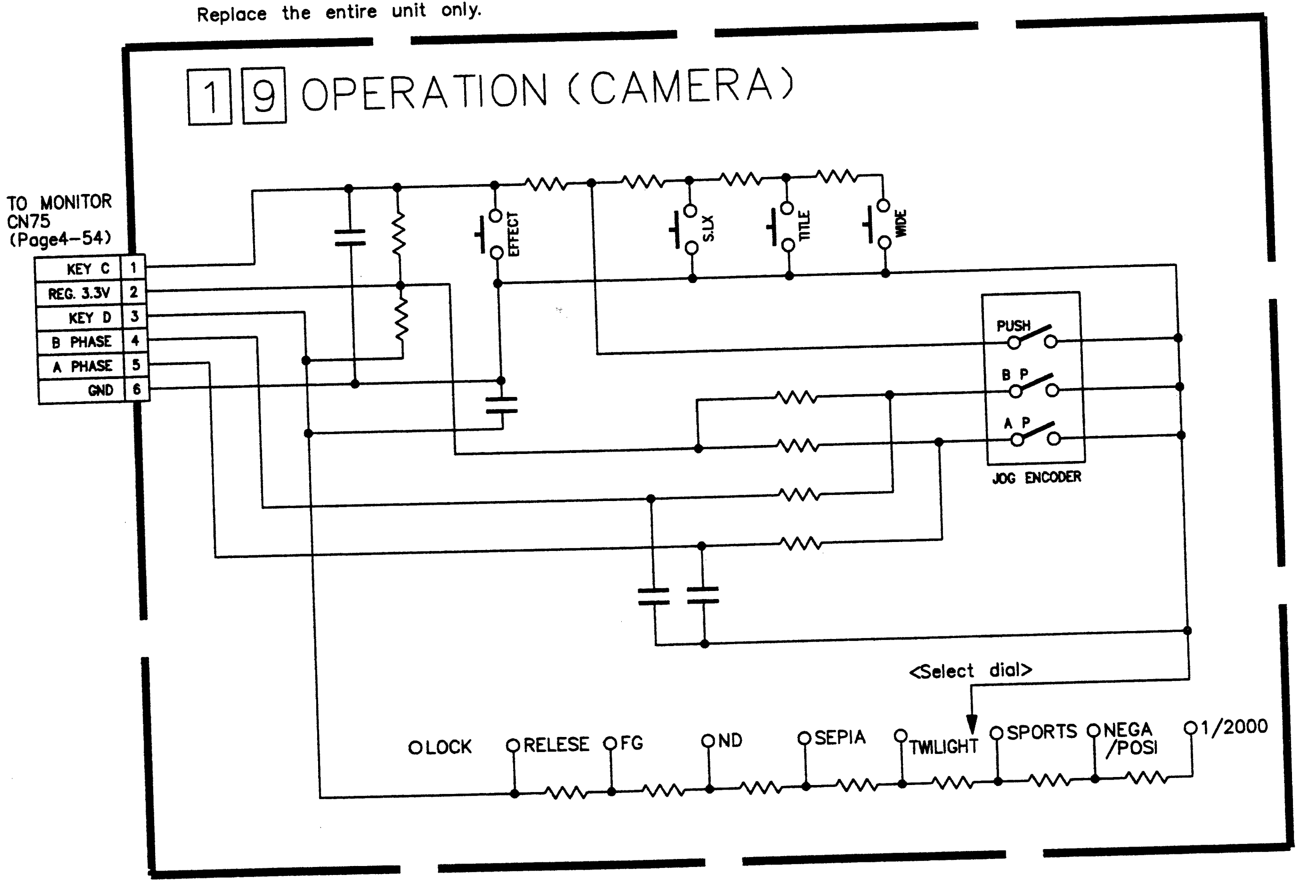

4
R4
R3
9
R2
VR4
JP
H4
TH
R11
IC
R10
C6
R1
5
CRT-CN
C5
R9
CN2
4
1
TR3
1
2
C12
CN1
9
10
C13
TR2
C7
HLC
C11
FBT
PA27-33
L1
94V-0
HCN
111

4.28 REAR AND OPERATION(CAMERA) SCHEMATIC DIAGRAMS

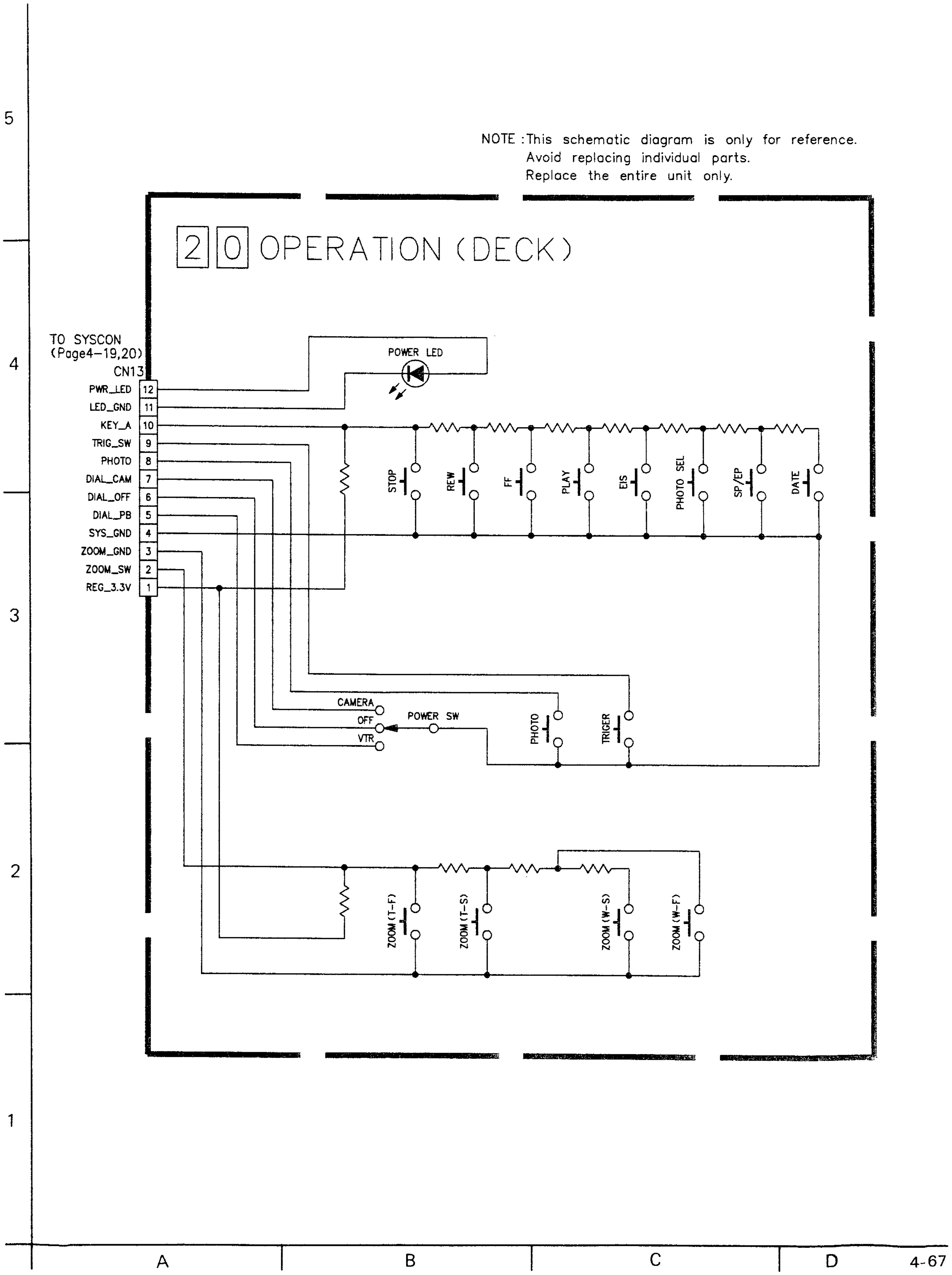
NOTE : This schematic diagram is only for reference
Avoid replacing individual parts.
Replace the entire unit only.


05 REAR
J501
LITHIUM
SW501
J502
BATT TERM UNIT
C501
TO SYSCON, Y/C, REG, CN11 (Page 4-19,20,22,29,30)
CN31
1 TXD
2 RXD
3 Li +
4 EJECT_SW
5 BATT +
6 BATT +
7 GND
8 GND
9 A_GND
10 AO_SIG
11 REG_5V
12 V_OUT
13 NC
J503
JLIP
R502
TX_OUT
RX_IN
R503
R504
C505
D503
D504
J504
V OUT
RF DC OUT
L502
R505
A OUT
C503
L503
R507

NOTE :This schematic diagram is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

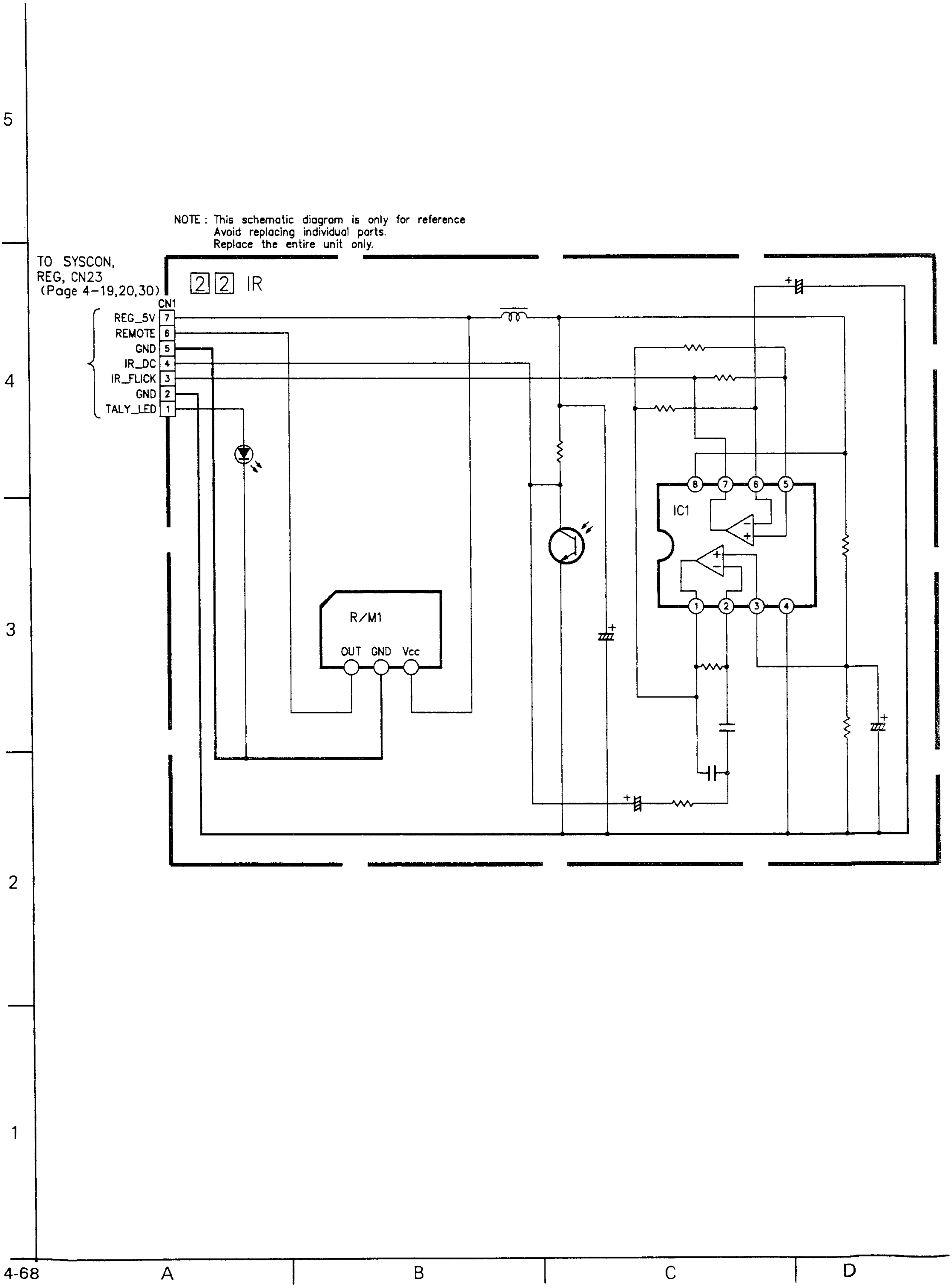

19 OPERATION (CAMERA)
TO MONITOR CN75 (Page4-54)
KEY C 1
REG. 3.3V 2
KEY D 3
B PHASE 4
A PHASE 5
GND 6
EFFECT
S.LX
TITLE
WIDE
PUSH
B P
A P
JOG ENCODER
<Select dial>
LOCK
RELESE
FG
ND
SEPIA
TWILIGHT
SPORTS
NEGA /POSI
1/2000

4.29 OPERATION(DECK) SCHEMATIC DIAGRAM



5
4
3
2
1
A
B
C
D
NOTE :This schematic diagram is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.
20 OPERATION (DECK)
TO SYSCON
(Page4-19,20)
CN13
PWR_LED 12
LED_GND 11
KEY_A 10
TRIG_SW 9
PHOTO 8
DIAL_CAM 7
DIAL_OFF 6
DIAL_PB 5
SYS_GND 4
ZOOM_GND 3
ZOOM_SW 2
REG_3.3V 1
POWER LED
STOP
REW
FF
PLAY
EIS
PHOTO SEL
SP/EP
DATE
CAMERA
OFF
VTR
POWER SW
PHOTO
TRIGER
ZOOM (T-F)
ZOOM (T-S)
ZOOM (W-S)
ZOOM (W-F)

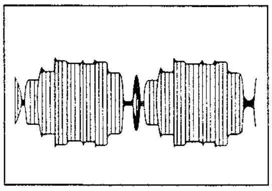
4.30 IR SCHEMATIC DIAGRAM


5
4
3
2
1
A
B
C
D
NOTE : This schematic diagram is only for reference
Avoid replacing individual parts.
Replace the entire unit only.
TO SYSCON,
REG, CN23
(Page 4-19,20,30)
22 IR
CN1
REG_5V 7
REMOTE 6
GND 5
IR_DC 4
IR_FLICK 3
GND 2
TALY_LED 1
R/M1
OUT GND Vcc
IC1
8 7 6 5
1 2 3 4

4.31 WAVEFORMS

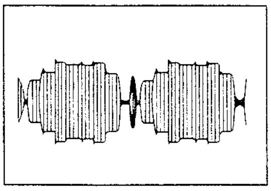
- Y/C -

WF1 IC3001-17



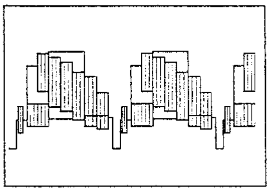
REC 0.18 Vp-p
PB 0.36 Vp-p
5mV/10µsec/DIV

WF2 IC3001-20



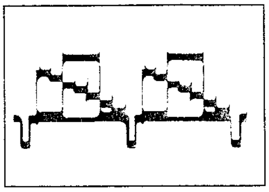
REC 0.76 Vp-p
PB 0.55 Vp-p
20mV/10µsec/DIV

WF3 IC3001-27



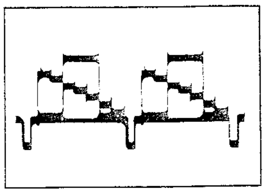
REC 2.35 Vp-p
PB 2.2 Vp-p
50mV/10µsec/DIV

WF4 IC3001-29



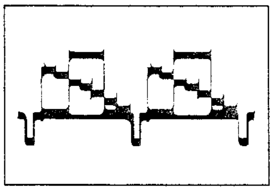
REC 1.2 Vp-p
PB 0.96 Vp-p
20mV/10µsec/DIV

WF5 IC3001-35



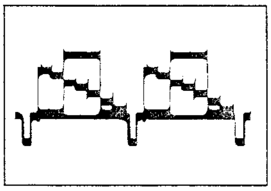
REC 1.04 Vp-p
20mV/10µsec/DIV

WF6 IC3001-42



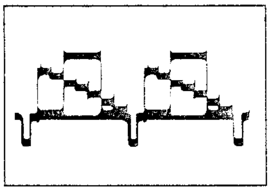
REC 0.58 Vp-p
PB 0.53 Vp-p
10mV/10µsec/DIV

WF7 IC3001-43



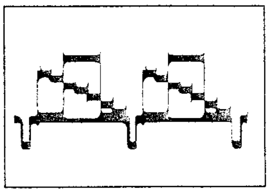
REC 0.63 Vp-p
PB 0.56 Vp-p
10mV/10µsec/DIV

WF8 IC3001-58



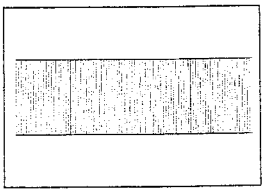
PB 0.42 Vp-p
10mV/10µsec/DIV

WF9 IC3001-59



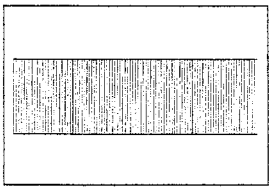
REC 0.8 Vp-p
20mV/10µsec/DIV

WF10 IC3001-60



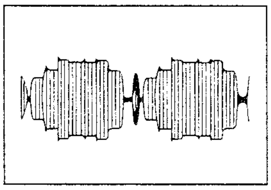
PB 0.45 Vp-p
10mV/10µsec/DIV

WF11 IC3001-62



REC 0.56 Vp-p
10mV/10µsec/DIV

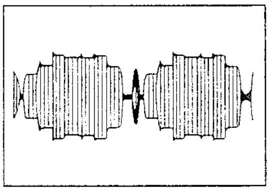
WF12 IC3101-14



REC 0.2 Vp-p
PB 0.46 Vp-p
10mV/10µsec/DIV

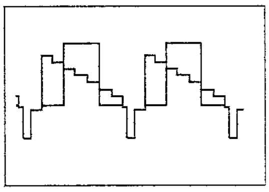
- DSP-

WF1 IC4001-53



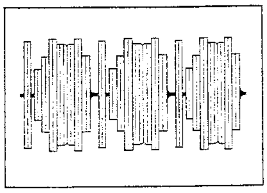
EE 0.47 Vp-p
10mV/10µsec/DIV

WF2 IC4001-54



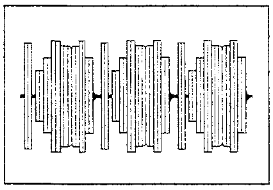
EE 0.76 Vp-p
20mV/10µsec/DIV

WF3 IC4003-2



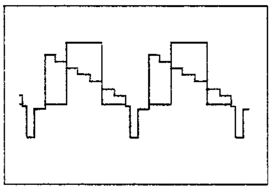
EE 0.56 Vp-p
0.1V/20µsec/DIV

WF4 IC4003-5



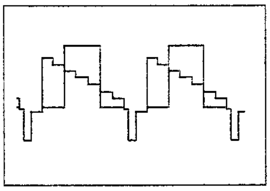
EE 0.53 Vp-p
0.1mV/20µsec/DIV

WF5 IC4003-12



EE 1.2 Vp-p
0.2V/20µsec/DIV

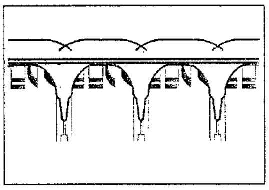
WF6 IC4003-15



EE 0.85 Vp-p
0.2V/20µsec/DIV

- CCD -

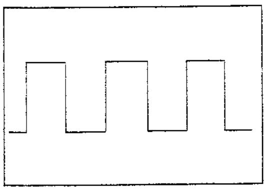
WF1 CN5201-7



EE 0.52 Vp-p
10mV/20µsec/DIV

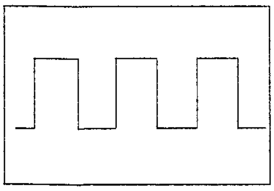
- SYSCON -

WF1 IC101-83



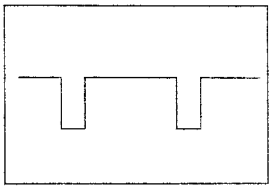
REC/PB 3.2 Vp-p
0.1V/0.5ms/DIV

WF2 IC101-85



REC/PB 3.2 Vp-p
0.1V/0.1msec/DIV

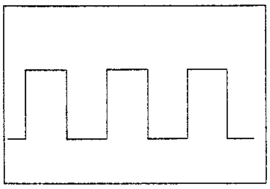
WF3 IC101-87



REC/PB 3.2 Vp-p
0.1V/5msec/DIV

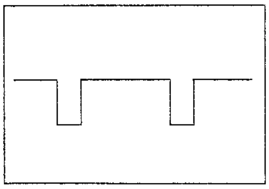
- MECHA MDA -

WF1 IC1601-29



REC/PB 3.1 Vp-p
0.1V/0.1msec/DIV

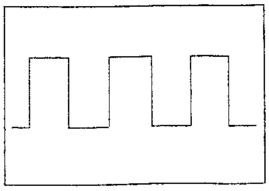
WF2 IC1601-62



REC/PB 3 Vp-p
0.1V/5msec/DIV

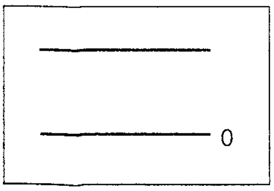
- REGULATOR-

WF1 D6010-A



EE 17 Vp-p
0.5V/0.5µsec/DIV

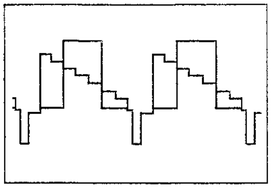
WF2 D6010-K



EE 15.9 Vp-p
0.5V/0.5µsec/DIV

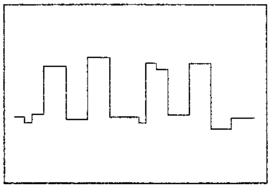
- MONITOR-

WF1 IC7502-3



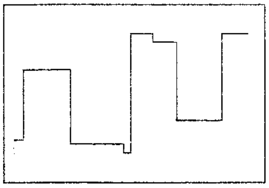
EE 0.44 Vp-p
10mV/10µsec/DIV

WF2 IC7502-20



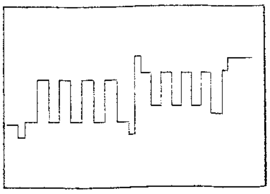
EE 4.5 Vp-p
0.1V/10µsec/DIV

WF3 IC7502-22



EE 5.6 Vp-p
0.1V/10µsec/DIV

WF4 IC7502-22



EE 5.5 Vp-p
0.1V/10µsec/DIV

4.32 VOLTAHGE CHARTS

<SYSCON>

MODE PIN NO.	REC	PLAY
IC101		
1	3.2	3.2
2	0	0
3	3.2	3.2
4	0	0
5	3.2	3.2
6	3.1	3.2
7	3.2	3.2
8	3.2	3.2
9	0	0
10	0	0
11	0	0
12	0	0
13	3.2	3.2
14	2.5	2.5
15	3.2	3.2
16	3.0	3.0
17	3.0	3.0
18	0	0
19	0	0
20	0.7	0.4
21	0.6	0.5
22	0.6	0.4
23	0.8	0.5
24	1.1	1.0
25	1.1	1.0
26	1.1	1.0
27	1.1	0.4
28	1.0	0.4
29	0.8	0.4
30	0.7	0.4
31	1	0.4
32	0.9	0
33	0.7	0
34	0.8	0.4
35	0.8	0.4
36	3.2	3.2
37	0	0
38	0	0
39	3.2	3.2
40	3.2	3.2
41	3.2	3.2
42	0	0
43	0	0
44	2.9	3.0
45	3.2	3.2
46	0	0
47	1.6	1.6
48	1.4	1.4
49	0	0
50	0	0
51	1.6	1.6
52	1.4	1.4
53	1.9	0
54	0	0
55	0	0
56	3.2	3.2
57	1.6	1.6
58	0	0
59	0	0
60	0	3.2
61	3.2	3.3
62	3.2	3.3
63	0	0
64	3.2	3.2
65	3.2	3.2
66	3.2	3.2
67	0	0
68	3.2	3.2
69	0	0
70	0	0
71	0	0
72	3.2	3.2
73	0	0
74	3.2	3.2
75	3.2	3.2
76	0	0
77	0	0
78	-	-
79	0.5	0.6
80	2.7	0
81	2.7	2.8
82	0	2.8
83	1.7	1.7
84	0	0
85	1.7	1.7
86	1.9	1.9
87	3.0	3.1
88	3.2	0
89	0	0
90	0	0
91	0	0
92	3.2	3.2
93	1.5	0.5
94	0	0
95	2.0	2.0
96	0	0
97	3.1	3.1
98	0	0
99	3.2	3.3
100	3.2	3.3
101	3.3	3.3
102	3.2	3.3
103	2.9	3.0
104	3.2	3.3
105	0	0
106	1.2	1.5
107	0	0
108	0	0
109	3.2	3.2
110	0	0
111	3.3	3.3
112	0	0
113	1.9	0
114	0	0
115	3.2	0
116	3.2	0
117	0.9	0.6
118	0	0
119	3.2	0
120	3.2	3.2
121	0	0
122	0	0
123	0	3.2
124	3.1	3.1
125	3.1	0
126	0	0
127	3.1	3.1
128	0	3.2
129	0	0
130	0	0
131	3.2	3.2
132	0	1.7
133	3.2	3.2
134	2.8	2.8
135	3.2	0
136	-2.6	-1.5
137	3.2	3.1
138	1.6	1.6
139	1.6	1.6
140	0	0
141	0	0
142	0	0
143	3.2	3.2
144	0	0
IC102		
1	3.3	3.3
2	0	0
3	6.5	6.5
IC103		
1	0	0
2	0	0
3	0	0
4	3.2	3.2
5	3.2	3.2
IC104		
1	0	0
2	3.2	3.2
3	0	0
4	0	0
5	0	0
6	0.5	0.5
7	0.4	0.4
8	3.1	3.1
IC105		
1	3.2	3.2
2	0	0
3	3.2	3.2
4	0	0
5	0	0
6	3.2	3.2
7	3.2	3.2
8	3.2	3.2
IC108		
1	0	0
2	3.2	0
3	0	0
4	0	0
5	3	3
6	0	0
7	0	0
8	3.2	3.2
9	3.2	3.2
10	0	0
11	0	0
12	3.2	3.2
13	3.2	3.2
14	0	0
15	0	0
16	3.0	3.0
17	3.2	3.2
18	3.2	3.2
19	3.2	3.2
20	3.2	3.2
21	2.9	2.9
22	0	0
23	3.2	3.2
24	0	0
25	0	0
26	0	0
27	2.4	2.4
28	0	4.9
29	0	0
30	4.9	4.9
31	0	0
32	4.9	4.9
33	0	0
34	0	0
35	0	0
36	0	0
37	4.8	4.8
38	0	0
39	0	0
40	4.4	4.4
41	1.6	1.6
42	4.4	0
43	4.9	4.9
44	0	0
45	0	0
46	0	0
47	0	0
48	3.4	3.4
IC109		
1	2.8	2.9
2	2.5	2.5
3	1.3	1.7
4	3.2	3.3
5	3.2	3.3
6	0	0
7	1.3	1.3
8	1.3	1.3
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	3.2	3.2
20	2.9	2.9
IC110		
1	1.3	1.7
2	3.2	3.2
3	1.8	1.4
4	1.8	1.4
5	1.8	1.4
6	1.3	1.7
7	0	0
8	3.2	3.2
9	3.2	3.2
10	0	0
11	0	0
12	3.2	3.2
13	3.2	3.2
14	3.2	3.2
Q101		
E	6.5	6.5
C	6.5	6.5
B	5.7	5.7
Q102		
E	0	0
C	0	0
B	3.2	3.2
Q103		
E	3.2	3.3
C	3.2	0
B	0	3.3
Q104		
E	0	0
C	0	3.3
B	0.6	0
Q107		
E	0	0
C	0.8	0.8
B	0	0
Q108		
E	0	0
C	0	4.9
B	0.6	0
Q109		
E	0	0
C	6.1	6.2
B	0	0
Q110		
E	6.5	6.5
C	0	0
B	6.5	6.5
Q111		
E	0	0
C	0	0
B	4.9	4.9
Q112		
E	4.9	4.9
C	4.8	4.8
B	0	0

<Y/C>

MODE PIN NO.	REC	PLAY
IC3001		
1	1.2	1.2
2	2.1	2.1
3	4.8	4.8
4	2.1	2.1
5	2.8	2.8
6	2.9	2.8
7	2.4	2.4
8	3.6	3.5
9	1.5	1.4
10	2.8	2.8
11	2.6	2.6
12	1.4	1.7
13	2.9	2.9
14	2.6	2.6
15	2.2	2.2
16	2.1	2.2
17	2.8	2.8
18	4.9	4.9
19	0	0
20	2.1	2.1
21	2.8	2.8
22	0	0
23	0	0
24	0	0
25	0	0
26	0	0
27	2.2	2.2
28	4.9	4.9
29	1.8	1.8
30	4.8	4.8
31	4.9	4.9
32	0	0
33	0	0
34	2.3	2.6
35	3.1	3.0
36	2.8	2.8
37	3.1	3.1
38	2.1	1.7
39	2.1	2
40	2.2	2.2
41	1.4	1.3
42	3.0	3.0
43	2.3	2.3
44	3.0	3.0
45	2.4	2.1
46	1.6	1.6
47	2.9	2.0
48	1.4	1.4
49	0	0.7
50	2.6	2.7
51	0	0.7
52	2.3	1.8
53	1.8	2.0
54	1.8	2.0
55	0	0
56	0	0
57	2.3	2.3
58	1.0	2.7
59	2.9	4.0
60	2.1	2.0
61	2.2	2.1
62	2.2	2.4
63	4.8	4.8
64	2.7	2.7
IC3051		
1	2.5	2.4
2	3.2	0
3	2.4	2.4
4	0	0
5	2.4	2.4
6	4.9	4.9
7	1.6	1.6
8	0	0
IC3101		
1	0	0
2	4.9	4.9
3	0	0
4	4.9	4.9

MODE PIN NO.	REC	PLAY
5	0	0
6	0	0
7	2.3	2.3
8	1.9	1.9
9	3.4	3.4
10	1.5	1.5
11	1.9	1.9
12	10.4	10.4
13	0	0
14	1.8	1.8
15	1.5	1.5
16	3.2	3.2
Q3008		
E	1.7	1.5
C	2.6	2.8
B	2.4	2.1
Q3009		
E	2.3	2.1
C	0	0
B	1.7	1.7
Q3010		
E	0	0
C	0.7	0.4
B	0	0
Q3011		
E	2.9	2.7
C	0	0
B	2.3	2.1
Q3101		
1	2.6	2.5
2	2.8	2.8
3	3.4	3.4
4	4.9	4.9
5	3.2	3.2
6	4.9	4.9
Q3102		
1	1.3	1.3
2	1.3	1.3
3	1.8	1.8
4	2.4	2.4
5	1.9	1.9
6	4.8	4.8
Q3103		
E	1.8	1.8
C	4.9	4.9
B	2.4	2.4
Q3104		
E	1.3	1.2
C	4.9	4.9
B	1.9	1.9
Q3201		
E	1.6	1.8
C	4.9	4.9
B	2.2	2.4
Q3203		
E	2.9	2.9
C	4.9	4.9
B	3.5	3.5
Q3204		
E	1.3	1.3
C	3.3	3.5
B	1.9	1.9
Q3205		
E	2.0	2.0
C	2.8	2.8
B	2.6	2.6
Q3206		
E	1.3	1.3
C	2.8	2.8
B	2.0	1.9
Q3209		
E	2.2	2.2
C	4.9	4.9
B	2.8	2.8
Q3307		
E	0	0
C	0	0
B	0	0
Q3308		
1	1.2	1.2
2	1.2	1.2
3	1.8	1.8
4	4.9	4.9
5	0	0
6	4.9	4.9

<DSP>

MODE PIN NO.	REC	PLAY
IC4001		
1	2.2	2.2
2	0	0
3	0	0
4	1.5	1.5
5	0	0
6	0	0
7	0.7	0.7
8	1.2	1.2
9	0	0
10	0	0
11	0	0
12	3.1	3.1
13	3.1	3.2
14	0	0
15	0	0
16	3.2	3.2
17	3.2	3.2
18	3.1	3.2
19	0	0
20	0.7	0.7
21	0.9	0.9
22	0.7	0.5
23	0.8	0.5
24	0.9	0.7
25	0.8	0.7
26	0.8	0.9
27	0.8	0.6
28	1.1	0.5
29	0.9	1.3
30	0	0
31	1.1	1.2
32	0.9	1.2
33	0.8	0.6
34	0.8	0.5
35	0.7	0.8
36	0.6	0.6
37	2.2	2.2
38	0	0
39	3.4	3.4
40	0	0
41	3.2	3.1
42	0	0
43	3.2	3.2
44	0	0
45	2.7	2.7
46	0	0
47	1.3	1.3
48	1.1	1.1
49	1.4	1.4
50	1.3	1.3
51	1.1	1.1
52	1.4	1.4
53	2.9	2.9
54	2.7	2.5
55	0	0
56	0.6	0
57	0.6	0.5
58	0.8	1.3
59	0.5	0
60	0.9	2.5
61	0.7	2.5
62	0.9	0
63	1.4	0
64	1.0	0
65	2.3	2.2
66	0	0
67	1.0	2.6
68	1.1	0
69	0.7	0
70	0.9	0.8
71	0.9	0.6
72	0.9	0.6
73	2.2	2.2
74	0.8	0.9
75	0.8	0.6
76	0.8	0.6
77	0.8	0.6
78	0.9	0.6
79	0.9	0.6
80	0.9	0.6
81	0	0
82	0.9	0.6
83	0.9	0.6
84	-3.9	-3.9
85	3.2	3.1
86	2.6	2.5
87	0	0
88	0	0
89	0	0
90	3.2	3.1
91	0	0
92	2.6	2.5
93	0	0
94	0	0
95	0.7	0
96	1.1	0
97	1.0	2.4
98	1.4	0.5
99	1.0	0
100	0.8	0
101	0.8	1.3
102	0	0
103	0.5	1.3
104	0.5	0
105	0.8	1.2
106	0.6	0.5
107	0.6	0
108	-3.4	-3.5
109	2.2	2.2
110	0	3.0
111	0.5	3.0
112	0.7	0
113	0.7	3.0
114	1.6	3
115	0.9	0
116	1	3.0
117	0	0
118	1	3.0
119	1.2	3.0
120	0	0
121	3.1	3.1
122	3.1	3.1
123	3.1	3.1
124	0.7	0.7
125	0	0
126	3.1	3.1
127	0	0
128	0	0
129	1.5	1.6
130	2.8	2.8
131	3.0	3.0
132	3.0	3.0
133	3.1	3.1
134	0.8	0.8
135	0.8	0.8
136	3.1	3.1
137	2.2	2.3
138	0	0
139	0.7	0.7
140	0	0
141	0	0
142	3.4	3.4
143	3.1	3.1
144	1.1	1.2
IC4002		
1	3.3	3.3
2	0	0
3	1.2	1.2
4	2.2	2.2
5	3.3	3.0
IC4005		
1	4.9	4.9
2	0	0
3	1.2	1.2
4	3.2	3.2
5	4.9	4.9
Q4001		
E	2.1	2.1
C	4.8	4.8
B	2.7	2.7
Q4002		
E	2.2	2.2
C	4.8	4.8
B	2.9	2.9
Q4006		
E	1.8	1.6
C	4.8	4.8
B	2.4	2.2
Q4007		
E	1.4	1.4
C	4.8	4.8
B	2.0	2.0

<AUTO>

MODE PIN NO.	REC	PLAY
IC4201		
1	0.9	3.5
2	1.4	1.4
3	1.4	1.4
4	0	0
5	1.9	1.9
6	1.9	1.9
7	1.9	1.9
8	6.4	6.4
IC4202		
1	1.9	0
2	1.5	0.4
3	1.5	0
4	4.9	4.9
5	1.9	1.9
6	1.9	1.9
7	1.5	0.5
8	2.3	2.3
9	1.9	1.9
10	1.9	1.9
11	0	0
12	0	0
13	0	0
14	0.8	0.8
IC4203		
1	1.9	0
2	1.9	0
3	0	0
4	2.0	0
5	3.3	3.3
IC4301		
1	1.7	1.6
2	0	0
3	2.9	2.9
4	1.4	1.7
5	1.7	1.8
6	1.9	1.9
7	0	0
8	0	0
9	0	0
10	0	0
11	2.9	2.9
12	3.1	3.1
13	0	0
14	0	0
15	3.3	3.3
16	3.3	3.3
Q4201		
E	0	0
C	1.5	1.5
B	0.8	0.8
Q4202		
E	2.8	2.8
C	4.9	4.9
B	3.4	3.4
Q4203		
E	2.8	2.8
C	2.0	0.5
B	1.5	0.5
Q4204		
E	2.8	2.8
C	1.4	1.4
B	1.4	1.4
Q4205		
E	0	0
C	0	0
B	4.9	4.9
Q4206		
E	6.5	6.5
C	6.4	6.4
B	5.7	5.7

<F/Z MDA>

MODE PIN NO.	REC	PLAY
IC4501		
1	0	0
2	0.4	0.4
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	3.3	3.3
9	6.4	6.5
10	1.0	1.0
11	0	0
12	1.0	1.0
13	6.4	0.5
14	0.5	1.0
15	0	0
16	0	1.0
17	0	0
18	0	0
19	0	0
20	0	0
21	0.5	0
22	0	0
23	6.5	6.5
24	0.8	1.2
25	0	0
26	0	1.2
27	6.4	6.5
28	0.8	1.3
29	0	0
30	1.0	1.3
31	0	0
32	0	0
33	0	0
34	1.3	1.7
35	2.8	2.9
36	-2.3	-2.2
37	1.3	1.3
38	3.2	3.3
Q4501		
E	0	0
C	2.9	3
B	0	0
Q4502		
E	0	0
C	2.9	3
B	0	0

MODE PIN NO.	REC	PLAY
Q4503		
E	0	0
C	2.9	3.0
B	0	0
Q4504		
E	0	0
C	2.9	3.0
B	0	0

<REGULATOR>

MODE PIN NO.	REC	PLAY
IC6001		
1	0	0.9
2	2.6	2.6
3	1.1	1.1
4	0.9	0.9
5	1.2	1.2
6	0	0
7	1.2	1.2
8	0	0
9	0	0
10	0	0
11	0	0
12	2.7	2.7
13	1.0	1.0
14	1.0	1.0
15	1.3	1.3
16	1	0.9
17	1.1	1.1
18	1.1	1.0
19	0	0
20	0	0
21	1.0	1.0
22	0	0
23	6.3	6.4
24	1.1	1.1
25	1.2	1.2
26	1.2	1.2
27	1.2	3.2
28	3.2	3.2
29	6.4	6.5
30	2.6	2.6
31	2.6	2.6
32	2.6	2.6
33	3.2	3.2
34	3.2	3.2
35	0	3.2
36	0	0
37	2.9	3
38	3.0	3.1
39	3.2	3.2
40	0	0
41	2.4	2.6
42	0	0
43	1.3	1.5
44	4.4	4.4
45	1.7	1.7
46	6.4	6.5
47	0	1.8
48	0	1.8
Q6001		
E	6.4	6.5
C	3.7	3.7
B	5.7	5.8
Q6006		
E	6.4	6.5
C	1.8	1.8
B	6.1	6.2
Q6011		
G	3.1	3.3
D	-2.2	0.4
S	0	0
Q6012		
G	3.1	3.1
D	-0.9	-1.1
S	6.4	6.5
Q6013		
E	15.1	15.1
C	15.9	15.5
B	15.7	15.1
Q6024		
E	-14.2	-14
C	-14.9	-14.7
B	0	-14.7
Q6201		
E	6.5	6.6
C	-0.4	-0.4
B	6.5	6.6
Q6202		
E	0	0
C	6.5	6.6
B	0	0
Q6203		
E	-0.4	0
C	0	0
B	0	0

<CTL AMP>

MODE PIN NO.	REC	PLAY
IC1201		
1	1.9	2
2	3.1	0
3	1.8	0
4	0	0
5	0.6	1.7
6	0.4	1.7
7	0	0
8	1.6	1.7
9	1.6	1.7
10	2.1	1.7
11	0	0
12	0.8	0.8
13	0.8	0.8
14	3.2	3.3

<MECHA SENSOR>

MODE PIN NO.	REC	PLAY
Q1001		
1	-	-
2	2.2	2.2
3	-	-
4	0	0
Q1002		
1	0	0
2	-	-
3	-	-
4	0	0
Q1003		
E	0	0
C	3.3	3.3
B	-	-
Q1004		
E	0	0
C	3.3	3.3
B	-	-

<MECHA MDA>

MODE PIN NO.	REC	PLAY
IC1601		
1	0	0
2	1.9	1.8
3	4.9	4.8
4	1.8	1.8
5	0	0
6	4	4.1
7	1.8	1.8
8	1.4	0.6
9	0	0
10	0	0
11	0	0
12	6.7	6.7
13	1.4	1.4
14	0.8	0.8
15	0	0
16	0	0
17	0.8	0.8
18	1.7	1.6
19	0.8	0
20	1.2	1.2
21	1.2	1.2
22	1.2	1.2
23	2.4	2.5
24	2.3	2.3
25	2.3	2.3
26	2.3	2.3
27	2.3	2.3
28	2.3	2.3
29	1.5	1.5
30	2.4	2.4
31	2.4	2.4
32	2.4	2.4
33	4.8	4.8
34	1	1
35	0.5	0.5
36	0.5	0.5
37	1.1	1.1
38	1.5	0
39	4.8	0
40	0	0
41	0	0
42	2.8	2.8
43	0	0
44	0	1.8
45	3.3	3.3
46	0	0
47	0	4.9
48	4.8	4.8
49	0	0
50	0	-
51	0	0
52	0	0.8
53	1.6	0.9
54	1.3	1.3
55	0.5	0.5
56	2.7	0
57	2.1	2.1
58	0	0
59	0.7	0
60	0	0
61	2.3	2.3
62	2.8	2.9
63	0	2.1
64	2.3	2.3
65	2.3	2.3
66	-	2.4
67	2.3	2.3
68	0	1.5
69	0	0
70	1.8	1.8
71	1.8	1.8
72	1.8	1.8
73	1.9	1.8
74	2.3	2.3
75	2.3	2.3
76	2.3	2.3
77	0.7	0.7
78	4.5	4.5
79	4.4	4.5
80	4.4	4.5
QA1601		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	1.9	1.9
11	4.3	4.4
12	1.9	1.9
13	4.3	4.4
14	1.9	1.9
15	4.4	4.4
16	4.7	4.7
QA1602		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0.8	0.8
11	1.3	1.3
12	0.8	0.8
13	1.3	1.3
14	0.8	0.8
15	1.3	1.3
16	1.7	1.7

<AUDIO>

MODE PIN NO.	REC	PLAY
IC2001		
1	1.8	1.6
2	2.2	2.2
3	2.2	2.2
4	2.2	2.2
5	2.2	2.2
6	2.2	2.2
7	0.5	0
8	1.5	1.5
9	0	0
10	2.2	2.2
11	2.3	0
12	0	4.9
13	2.2	2.2
14	4.6	0
15	2.2	2.2
16	0	0
17	0	0
18	0	0
19	1.6	1.6
20	0	0
21	1.6	1.6
22	4.5	4.5
23	1.6	1.6
24	4.5	4.5
IC2071		
1	2.2	2.2
2	2.2	2.2
3	2.2	2.2
4	0	0
5	2.2	2.2
6	2.2	2.2
7	2.2	2.2
8	4.7	4.6
Q2001		
E	4.9	4.9
C	4.7	2.3
B	4.1	4.9
Q2002		
E	4.7	-1.3
C	0	0
B	4	2.4
Q2003		
E	0	0
C	3.8	0
B	1.5	4.9
Q2004		
E	0	0
C	4.5	0.4
B	0	0
Q2005		
1	-12.7	0
2	-18.7	0
3	0	0
4	15	0
5	-19.8	0.7
6	0	0
Q2006		
E	4.6	4.6
C	-18.3	4.5
B	4.7	0
Q2007		
E	0	0
C	0	0
B	0	4.9
Q2008		
E	0	0
C	0	0
B	0	3
Q2009		
E	0	0
C	2.9	2.9
B	0	0
Q2010		
E	0	0
C	0	0
B	2.9	2.8
Q2019		
E	0	0
C	0	0
B	3.2	0
Q2020		
E	0	0
C	0	2.4
B	3.8	0
Q2021		
E	0	0
C	0	0
B	0.6	0.6
Q2071		
E	0	0
C	0	0
B	3.1	3.1
Q2072		
E	0	0
C	0	0
B	0.6	0
Q2073		
E	0	0
C	1.3	1.2
B	0	0

<PRE/REC>

MODE PIN NO.	REC	PLAY
IC3501		
1	0	0
2	0	0
3	2.3	2.3
4	0	3.1
5	3.9	2.4
6	0.7	0
7	0.7	2.4
8	2.2	2.3
9	2.2	0
10	3.1	3.2
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	2.5	2.4
17	3.2	2.7
18	0	0
19	0	0
20	3.8	0
21	3.7	0.5
22	3.9	0
23	0	0.5
24	0	0.6
25	0	0
26	0	0.6
27	3.7	0
28	3.8	0.5
29	3.8	0.5
30	4.5	0
31	4.5	0
32	3.8	0
33	3.2	0.6
34	3.8	0
35	0	0.6
36	0	0
37	0	0.7
38	0	0.6
39	3.8	0
40	3.7	0.5
41	3.8	0
42	2.2	2.3
43	0	0
44	4.5	4.6
45	4.5	4.6
46	2.2	4.2
47	0	2.6
48	3.8	2.2
Q3501		
E	3.9	0
C	3.9	0
B	3.6	0.5
Q3502		
E	3.9	0
C	3.9	0
B	3.6	0.5
Q3503		
E	3.9	0
C	3.9	0
B	3.7	0.5
Q3504		
E	3.9	0
C	3.9	0
B	3.7	0.5
Q3505		
E	0	0
C	2.3	2.4
B	0	0
Q3506		
E	0	0
C	0	0
B	0	3.0
Q3507		
E	0	0
C	0	3.0
B	3.2	0
Q3508		
E	0	0
C	2.3	0
B	0	0
Q3509		
E	1.7	3.8
C	4.7	4.7
B	2.3	4.4
Q3901		
E	0	1.3
C	2.8	0
B	0	0
Q3902		
E	0	1.4
C	2.8	0
B	0	0
Q3903		
E	0	0
C	0	1.4
B	3.2	0
Q3904		
E	3.3	3.3
C	3.0	0
B	0	3.2
Q3905		
E	0	0
C	2.8	0
B	0	3
Q3906		
E	0	0
C	2.8	0
B	0	3

<CCD>

MODE PIN NO.	EE
IC5201	
1	3.1
2	2.6
3	0
4	0
5	3.2
6	0
7	0
8	0
9	-3.5
10	0
11	0.8
12	0
13	3.2
14	0
15	0
16	1.0
17	0
18	-2.8
19	3.2
20	3.2
21	-4.9
22	-5.4
23	0
24	-7.1
25	-0.4
26	-0.4
27	15
28	-6.8
29	-7.1
30	0
31	-6.8
32	3.2
33	0
34	0
35	0
36	0
37	2.9
38	2.0
39	3.2
40	3.2
41	0
42	4.4
43	3.2
44	2.9
45	3.1
46	3.2
47	0
48	1.5
IC5202	
1	0
2	1.2
3	1.2
4	1.0
5	1.1
6	0
7	1.5
8	1.0
9	0.7
10	0
11	0
12	0
13	0
14	0
15	3.0
16	-2.8
17	3.2
18	0.6
19	1.2
20	0
21	3.0
22	0
23	1.5
24	0
25	0
26	3.0
27	1.6
28	0
29	0
30	0
31	3.0
32	1.2
33	1.4
34	1.7
35	1.2
36	0
37	0
38	3.0
39	0
40	0
41	2.9
42	0
43	3.2
44	2.9
45	2.0
46	0
47	0
48	0
IC5203	
1	4.9
2	0
3	1.2
4	3.0
5	4.9
Q5201	
E	9.8
C	14.8
B	10.3

<SPEAKER>

MODE PIN NO.	EE
IC2401	
1	1.5
2	3.3
3	1.4
4	0
5	0.6
6	0
7	0
8	0.6
IC2403	
1	2.4
2	0
3	2.4
4	0
5	0
6	0
7	1.7
8	0
IC2404	
1	0
2	0
3	2.2
4	0
5	2.3
6	3.5
7	1.2
8	0
Q2401	
E	3.5
C	6.5
B	4.5
Q2402	
E	3.3
C	3.3
B	0.4
Q2403	
E	0
C	4.5
B	0
Q2404	
E	0
C	3.3
B	0
Q2405	
E	0
C	0
B	0.7

<MONITOR>

MODE PIN NO.	EE
IC7501	
1	0
2	7.3
3	7.4
4	0
5	4.8
6	4.8
7	11.6
8	14.8
IC7502	
1	0
2	4.1
3	2.4
4	0.4
5	2.7
6	2.6
7	3.1
8	0.8
9	2.1
10	2.1
11	1.8
12	2.8
13	2.6
14	4.2
15	2.4
16	2.9
17	0
18	0
19	2.4
20	5.8
21	2.4
22	5.8
23	2.4
24	5.8
25	11.6
26	3.2
27	2.6
28	2.3
29	1.5
30	2.2
31	1.8
32	2.1
33	4.9
34	2.3
35	2.3
36	0
37	0
38	2.5
39	0
40	0
41	0
42	2.6
43	4.8
44	1.2
45	2.3
46	2.8
47	1.8
48	3.1
IC7503	
1	2.8
2	2.9
3	0
4	0
5	2.9
6	0
7	0
8	3.1
C7504	
1	0
2	3.1
3	0
4	0
5	3.3
IC7505	
1	0
2	3.1
3	0
4	0
5	1.2

MODE PIN NO.	EE
6	3
7	3.3
8	0
9	3.3
10	0
11	0
12	0
13	3.2
14	1.5
15	3.1
16	0.6
17	0
18	0
19	0
20	0
21	0.4
22	0
23	0
24	0
25	1.6
26	0
27	1.6
28	3.2
29	1.6
30	3.3
31	0
32	0
33	1.4
34	3.3
35	3.3
36	0
37	1.6
38	0
39	3.1
40	0
41	3.1
42	3.1
43	0
44	3.1
45	3.1
46	0
47	3.1
48	0
IC7507	
1	-9.8
2	0
3	0
4	-14.3
5	1.6
6	1.6
7	1.6
8	15.0
Q7501	
E	0
C	6.4
B	0
Q7502	
E	0
C	6.3
B	0
Q7503	
E	6.4
C	6.3
B	0
Q7504	
E	0
C	0
B	0.5
Q7513	
E	3.3
C	0
B	3.2
Q7514	
E	0
C	3.2
B	0

MODE PIN NO.	EE
Q7515	
E	3.3
C	-14.3
B	3.1
Q7516	
E	0
C	0
B	0
Q7517	
E	0
C	0
B	-0.4

<DSC>

MODE PIN NO.	EE
IC8001	
1	3.2
2	3.2
3	3.2
4	0
5	3.2
6	0
7	3.2
8	3.2
9	3.2
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	3.2
20	0.4
21	-3.1
22	1.1
23	0
24	0
25	0
26	0
27	0
28	3.2
29	0
30	3.2
31	3.2
32	3.2
33	3.2
34	3.2
35	3.2
36	3.2
37	0
38	3.2
39	3.2
40	3.2
41	3.2
42	0
43	3.2
44	3.2
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	0
55	3.2
56	0
57	0
58	0
59	0
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	3.2
69	3.2
70	3.2
71	3.2
72	0
73	3.2
74	3.2
75	3.2
76	3.2
77	3.2

MODE PIN NO.	EE
78	3.2
79	3.2
80	3.2
81	0
82	0
83	0
84	0
85	0
86	0
87	3.2
88	3.2
89	3.2
90	0
91	0
92	1.6
93	3.2
94	0
95	0
96	0.9
97	3.2
98	3.3
99	3.2
100	3.2
101	3.2
102	3.2
103	3.2
104	3.2
105	3.2
106	3.2
107	3.2
108	3.2
109	0
110	3.2
111	3.2
112	3.2
113	3.2
114	0.8
115	0.8
116	0.8
117	0
118	0.7
119	1
120	0.9
121	1.8
122	0.8
123	0.8
124	0.8
125	0.8
126	0
127	3.2
128	3.2
129	3.2
130	3.2
131	3.2
132	0.7
133	0.7
134	0.7
135	0.8
136	1.6
137	0
138	0
139	-3.2
140	3.2
141	3.2
142	3.2
143	3.2
144	0
IC8002	
1	3
2	3
3	3
4	3
5	3
6	0
7	3
8	3
9	3
10	3

MODE PIN NO.	EE
11	3
12	3.1
13	2.9
14	3
15	0
16	1.7
17	0
18	0.4
19	0
20	0
21	0
22	3.2
23	3.2
24	3.2
25	0
26	3.2
27	3.2
28	3.2
29	3.2
30	3.2
31	0
32	3.2
33	3.2
34	3.2
35	3.2
36	3.2
37	0
38	3.2
39	3.2
40	3.2
41	3.2
42	0
43	0
44	3.2
45	3.2
46	3.2
47	3.2
48	3.2
49	3.2
50	0
51	3.2
52	3.2
53	3.2
54	3.2
55	0
56	3.2
57	3.2
58	3.2
59	3.2
60	3.2
61	3.2
62	3.2
63	3.2
64	3.2
65	0
66	0
67	3.2
68	3.2
69	3.2
70	3.2
71	3.2
72	3.2
73	3.2
74	3.2
75	0
76	3.2
77	3.2
78	3.2
79	3.2
80	3.2
81	0
82	3.2
83	3.2
84	3.2
85	3.2
86	3.2
87	3.2
88	3.2

MODE PIN NO.	EE
89	3.2
90	0
91	3.2
92	0
93	3.2
94	3.2
95	3.2
96	3.2
97	3.2
98	3.2
99	3.2
100	0
IC8003	
1	3
2	3
3	3
4	2.9
5	2.9
6	2.9
7	2.9
8	3
9	2.9
10	0
11	3.2
12	3.2
13	0
14	0
15	3.2
16	3
17	2.9
18	3
19	2.9
20	3
21	0
22	2.9
23	0
24	2.9
25	3
26	3.2
27	0
28	3.2
29	3.2
30	3
31	3
32	3
33	3.1
34	3
35	3
36	3
37	3.3
38	3
39	3
40	3
41	3
42	3
43	3
44	3
45	3
46	0
47	3.3
48	2.9
IC8004	
1	0
2	0
3	0
4	3.2
5	3.2
IC8006	
1	0
2	3.3
3	3.3
4	3.3
5	3.3
6	0
7	0
8	0
9	3.3
10	0

MODE PIN NO.	EE
11	3.2
12	0
13	0
14	0
15	3.3
16	3.3
IC8007	
1	0
2	0
3	0
4	2.9
5	3.2
IC8008	
1	2.9
2	3.2
3	0
4	0
5	3.2
6	0
7	0
8	0
IC8009	
1	0
2	3
3	0
4	3.2
5	3.2

<E.VF/TYPE T>

MODE PIN NO.	EE
IC7001	
1	2.1
2	4.7
3	2.0
4	0
5	0
6	0
7	2.0
8	4.5
9	4.2
10	0
11	1.9
12	4.4
13	2.7
14	1.8
15	1.8
16	1.6
Q7001	
1	0.5
2	14.7
3	0
Q7002	
E	2.7
C	-25.2
B	2.2
Q7003	
E	-24.6
C	-34.8
B	-25.2

<E.VF/TYPE M>

MODE PIN NO.	EE
IC1	
1	0
2	4.9
3	2.4
4	0
5	1.9
6	0
7	0
8	4.5
9	4.4
10	0
11	1.9
12	4.5
13	2.8
14	1.8
15	1.8
16	3.1
Q1	
E	2.2
C	-15.2
B	1.7
Q2	
E	0
C	4.5
B	0
Q3	
E	0
C	0
B	0.3

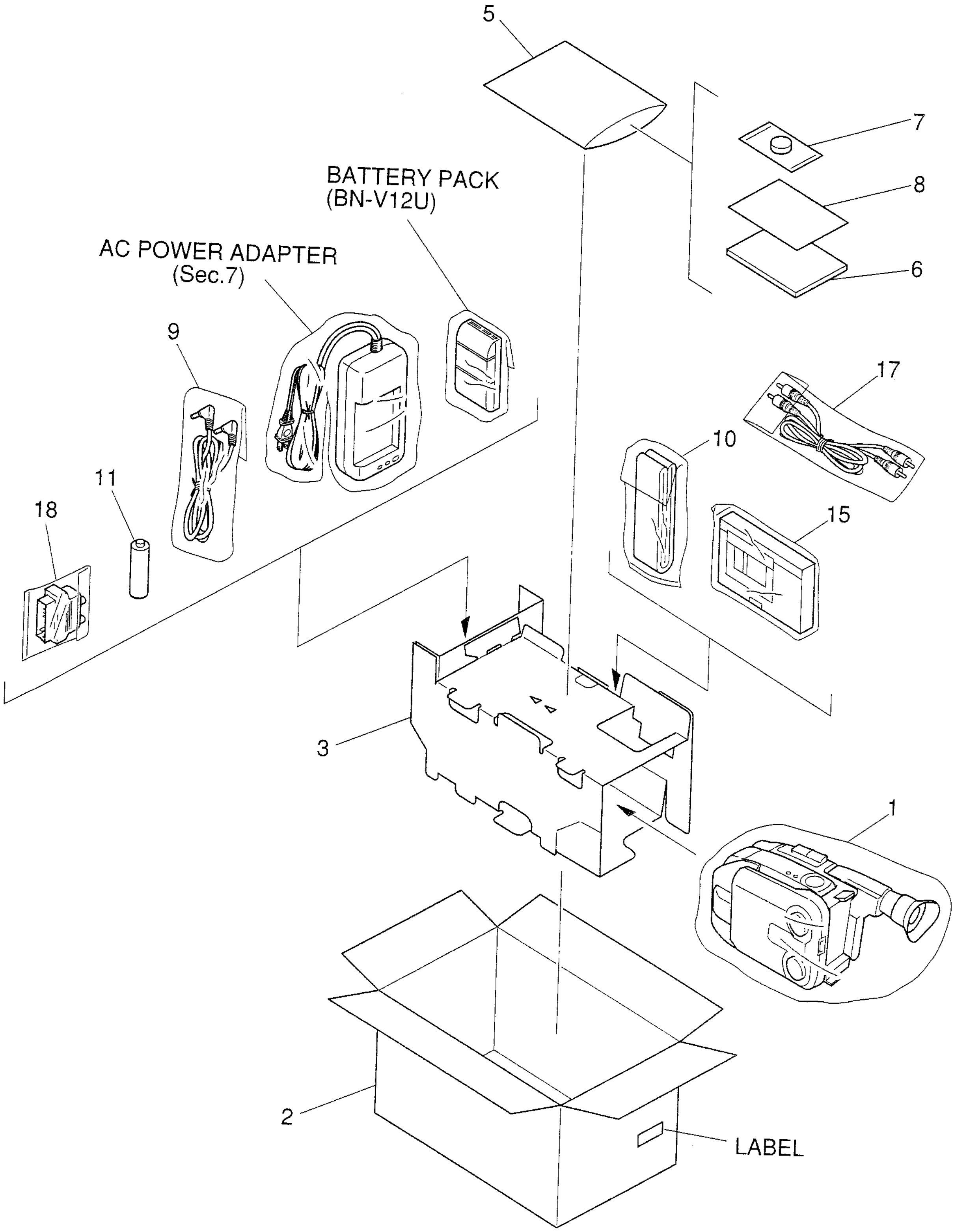
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.


5
7
8
6
BATTERY PACK
(BN-V12U)
AC POWER ADAPTER
(Sec.7)
9
17
10
11
18
15
3
1
2
LABEL

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION

* * *

PACKING ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	LY30023-002A	POLY BAG
	2	LY30421-025A	PACKING CASE
	3	LY30422-001B	CUSHION
	5	QPA02003006	POLY BAG
⚠	6	LYT0075-001A	IB(EN.GE)
⚠		LYT0075-002A	IB(FR.DU)
⚠		LYT0075-003A	IB(SP.IT)
⚠		LYT0075-004A	IB(DA.FI)
⚠		LYT0075-005A	IB(SW.NO)
⚠	7	PECA0903	LI BATTERY
	8	BT-54008-1	GUARANTEE CARD
	9	PEAC0449	DC PLUG CORD
	10	YQ10188A-1	S STRAP ASSY
	11	–	BATTERY,CASS.ADAPTER
	15	YQ31963A-3	CASS.ADAPTER ASSY
		or YQ31963B-3	CASS.ADAPTER ASSY
	17	PEAC0362-150	CABLE ASSY(AUDIO/VIDEO)
	18	PEMC1174	CONNECTOR, CABLE ADAPTER

- INSTRUCTIONS

EN .... ENGLISH
FR .... FRENCH
GE .... GERMAN
DU .... DUTCH
SP .... SPANISH
IT .... ITALIAN
SW ...... SWEDISH
DA .... DANISH
FI .... FINNISH
NO ...... NORWEGIAN

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

PACKING ASSEMBLY <M1>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	LY30023-002A	POLY BAG
	2	LY30421-025A	PACKING CASE
	3	LY30422-001B	CUSHION
	5	QPA02003006	POLY BAG
⚠	6	LYT0075-001A	IB(EN.GE)
⚠		LYT0075-002A	IB(FR.DU)
⚠		LYT0075-003A	IB(SP.IT)
⚠		LYT0075-004A	IB(DA.FI)
⚠		LYT0075-005A	IB(SW.NO)
⚠	7	PECA0903	LI BATTERY
	8	BT-54008-1	GUARANTEE CARD
	9	PEAC0449	DC PLUG CORD
	10	YQ10188A-1	S STRAP ASSY
	11	–	BATTERY,CASS.ADAPTER
	15	YQ31963A-3	CASS.ADAPTER ASSY
		or YQ31963B-3	CASS.ADAPTER ASSY
	17	PEAC0362-150	CABLE ASSY(AUDIO/VIDEO)
	18	PEMC1174	CONNECTOR, CABLE ADAPTER

- INSTRUCTIONS

EN .... ENGLISH
FR .... FRENCH
GF .... GFRMAN
DU .... DUTCH
SP .... SPANISH
IT .... ITALIAN
SW ...... SWEDISH
DA .... DANISH
FI .... FINNISH
NO ...... NORWEGIAN

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

FINAL ASSEMBLY <M2>

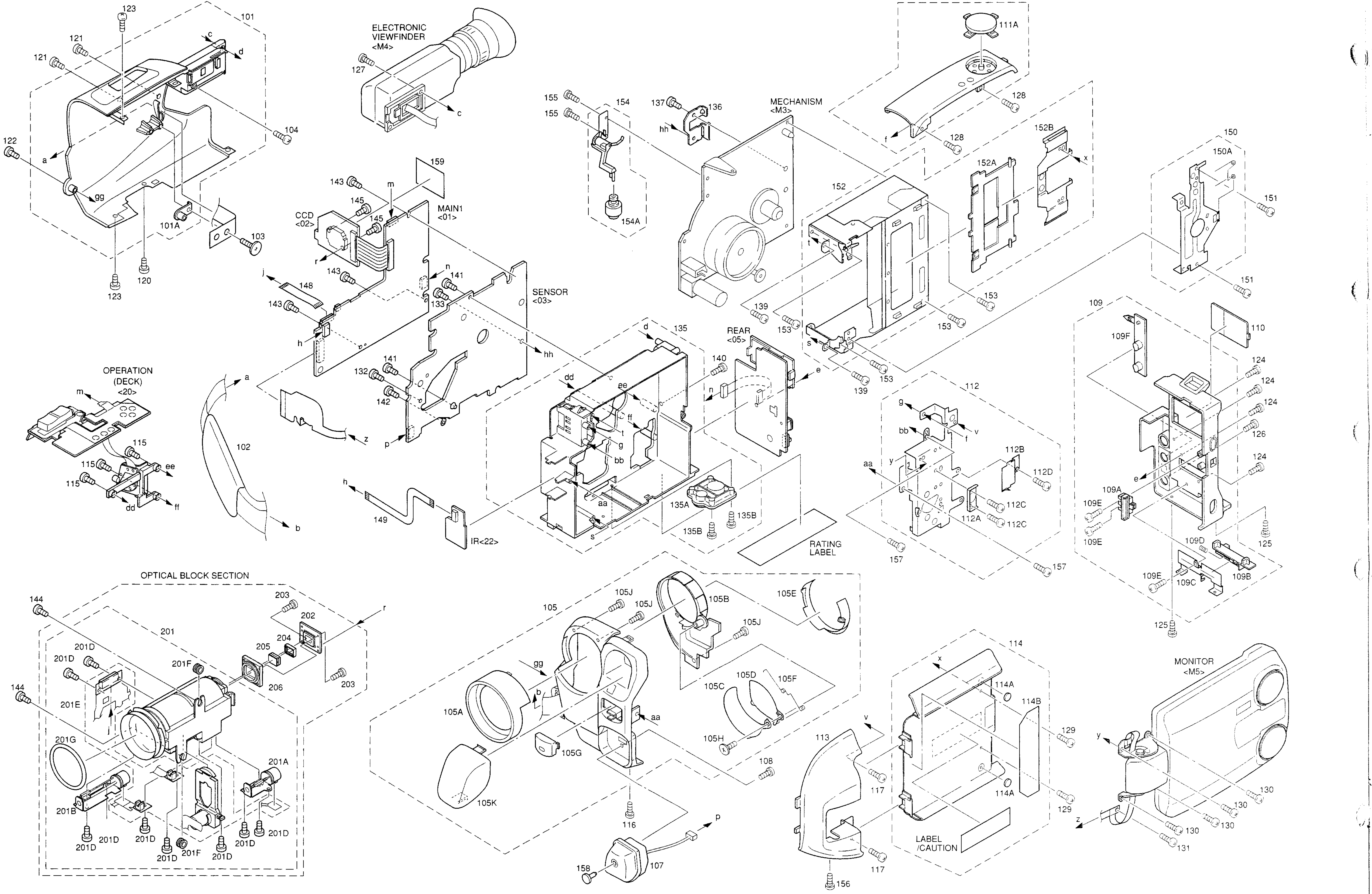
# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	101	LY10044-003A	LOWER CASE ASSY
	101A	LY40081-001A	CAP
	102	LY20014-001A	GRIP BELT
	103	LY30018-003A	SPECIAL SCREW
	104	QYSLSF2055D	SPECIAL SCREW
	105	LY10046-021A	FRONT COVER ASSY
	105A	LY30311-001A	HOOD
	105B	LY20128-001A	GUIDE(SHUTTER)
	105C	LY30313-001A	SHUTTER(1)
	105D	LY30314-001A	SHUTTER(2)
	105E	LY30315-001A	KNOB(SHUTTER)
	105F	LY40187-001A	TORSION SPRING
	105G	LY30316-001A	IR WINDOW
	105H	YQ43762	SPECIAL SCREW
	105J	QYSLSF2050Z	SCREW,X3
	105K	LY30317-002A	COVER(LIGHT)
	107	LY20082-002B	MICROPHONE
	108	QYSLSF2055D	SPECIAL SCREW
⚠	109	LY10068-002B	REAR COVER ASSY
	109A	LY30400-001A	CATCHER(REAR)
	109B	YQ32079	KNOB(B.RELEASE)
	109C	LY30318-001A	BKT(B.RELEASE)
	109D	LY30002-014A	COMPRES. SPRING
	109E	QYSLSF2040D	SCREW,X3
	109F	LY30319-001A	COVER(JACK)
	110	YQ31821-1-4	CAP(LITHIUM)
	111	LY20090-054A	TOP COVER ASSY
	111A	LY30324-001A	BUTTON(PLAY)
	112	LY30401-001D	BKT(UPPER)ASSY
	112A	LY30179-001A	STOPPER/LCD
	112B	LY30402-001C	COVER(BKT)
	112C	QYSLSP2030D	SCREW,X2
	112D	QYSLSP2020Z	SCREW
⚠	113	LY10070-008A	UPPER CASE
⚠	114	LY30403-010A	CASS.COVER ASSY
	114A	LY40076-001A	SPACER,X2
	114B	LY40314-001A	SHEET(PROTECT)
	115	QYSLSF2055D	SPECIAL SCREW,X3
	116	QYSLSF2055D	SPECIAL SCREW
	117	QYSLSP2020Z	SCREW,X2
	120	QYSLSF2055D	SPECIAL SCREW
	121	QYSLSF2055D	SPECIAL SCREW,X2
	122	QYSLSF2055D	SPECIAL SCREW
	123	QYSLSF2055D	SPECIAL SCREW,X2
	124	QYSLSF2055D	SPECIAL SCREW,X4
	125	QYSLSF2055D	SPECIAL SCREW,X2
	126	QYSLSF2055D	SPECIAL SCREW
	127	QYSLSF20A0D	SCREW
	128	QYSLSF2055D	SPECIAL SCREW,X2
	129	QYSLSP2030D	SCREW,X2
	130	QYSLSP2030D	SCREW,X4
	131	QYSLSP2030D	SCREW
	132	QYSPSPU1760Z	SCREW
	133	LY30019-010A	SPECIAL SCREW
⚠	135	LY20094-001B	FRAME ASSY
	135A	YQ31843	BASE
	135B	QYSLSF2060D	SCREW,X2
	136	LY30335-001A	BKT(MECHA)

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	137	QYSPSTU1725M	SCREW
	139	QYSLSF1750D	SCREW,X2
	140	QYSLSP2030D	SCREW
	141	QYSPSTU1750M	SCREW,X2
	142	QYSPSTU1725M	SCREW
	143	QYSLSF1750D	SPECIAL SCREW,X3
	144	YQ43762-4	SCREW,X2
	145	LY30018-009A	SPECIAL SCREW,X2
	148	QUQ105-2206AA	FFC WIRE,MAIN1 CN15-OP
	149	QAL0084-001	FPC,MAIN1 CN23-IR
	150	LY30514-001B	FRONT FRAME ASSY
	150A	YQ44144-1-1	TAPE GUIDE
	151	SPSH1725M	SCREW,X2
	152	YQ31752F	CASSETTE HOUSING ASSY
	152A	LY30406-001A	CASS.COVER INSIDE
	152B	LY30407-001A	BKT(C.COVER)
	153	YQ44457-3	SCREW,X4
	154	YQ44027A-7	CLEANER ASSY
	154A	YQ44109A-2	CLEANER ROLLER ASSY
	155	LY40320-001A	SPECIAL SCREW,X2
	156	QYSLSF2055D	SPECIAL SCREW
	157	QYSLSF2055D	SPECIAL SCREW,X2
	158	YQ43518	CAP(JACK)
	159	LY40559-001A	SHIELD SHEET

– OPTICAL BLOCK SECTION –

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	201	LY30526-001B	OP BLOCK ASSY
	201A	PTY30526-002	FOCUS MOTOR UNIT
	201B	PTY30526-001	ZOOM MOTOR UNIT
	201D	PTY30151-016	SCREW,X9
	201E	PTY30526-006	IRIS UNIT,INCL.FPC
	201F	PTY30526-021	RUBBER BUSH,X2
	201G	PTY30526-020	O RING
	202	YS40166C	CCD BASE ASSY
	203	SPSN2090Z	SCREW,X2
	204	LY30296-001A	SPACER RUBBER
	205	LY40549-001A	OP LPF
	206	LY20086-001A	CCD SPACER

5.2 FINAL ASSEMBLY <M2>



123
101
121
121
c
d
104
122
a
gg
101A
103
120
123
ELECTRONIC VIEWFINDER <M4>
127
c
159
143
m
145
145
CCD <02>
MAIN1 <01>
r
143
n
141
j
148
133
SENSOR <03>
143
h
h
hh
141
132
142
p
z
OPERATION (DECK) <20>
m
115
115
115
ee
dd
ff
a
102
b
h
149
IR<22>
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154
154A
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136
hh
MECHANISM <M3>
111
111A
128
f
128
152B
152A
x
152
150
150A
151
151
t
153
139
153
153
153
s
139
d
135
dd
ee
ff
t
g
bb
aa
s
140
n
REAR <05>
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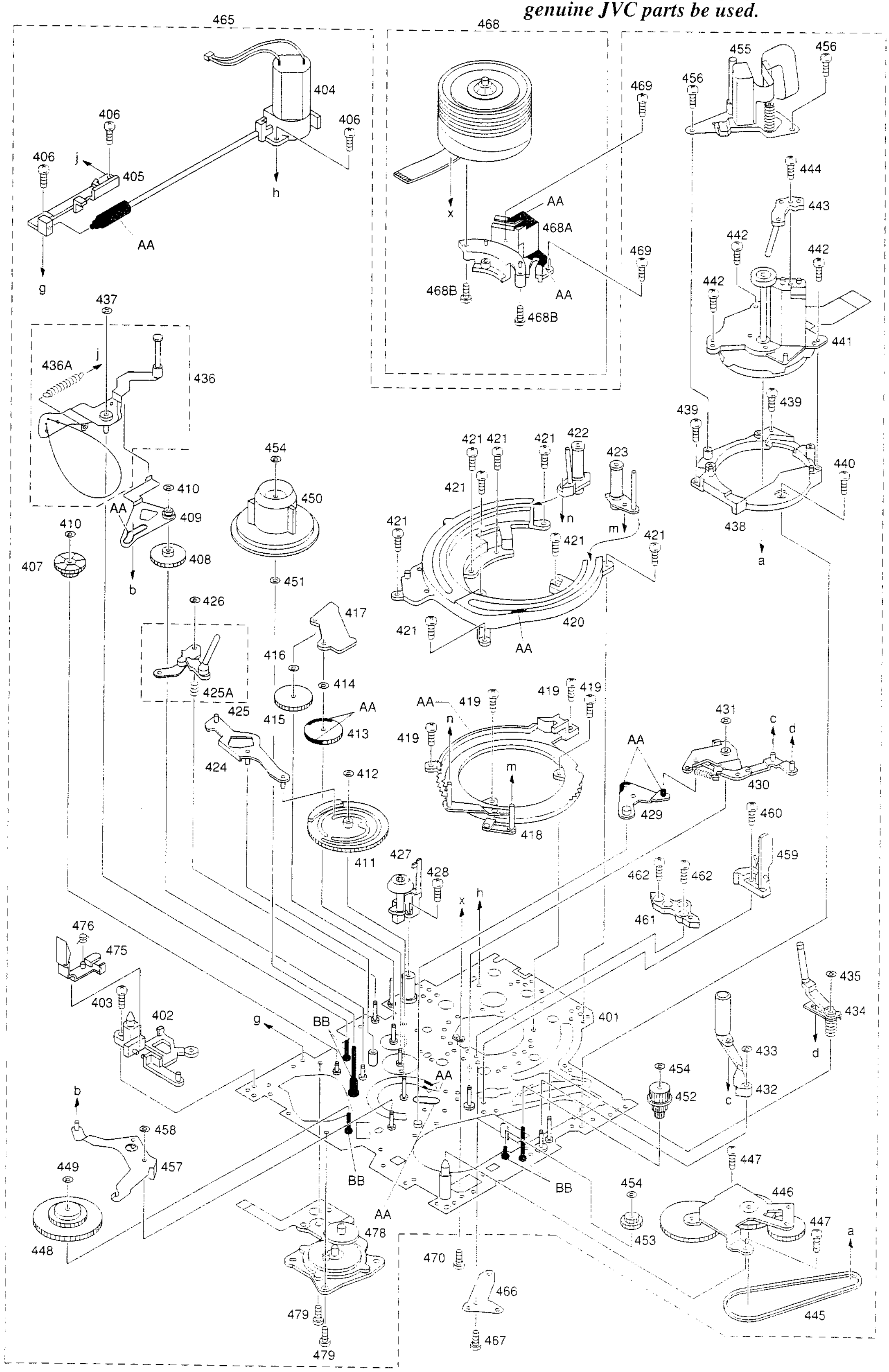
135B
135B
RATING LABEL
112
g
v
bb
f
aa
y
112B
112D
112C
112C
112A
157
157
109
109F
110
124
124
124
126
124
e
109A
109E
109E
109D
125
109E
109C
109B
125
OPTICAL BLOCK SECTION
144
203
202
r
201
205
204
201D
201D
201F
206
203
144
201E
201G
201A
201B
201D
201D
201D
201D
201F
201D
201D
201D
105
105J
105J
105B
105E
105J
gg
b
105A
105K
105G
aa
105D
105F
105C
105H
108
116
p
158
107
113
v
117
117
156
114
x
114A
114B
129
129
114A
LABEL /CAUTION
MONITOR <M5>
y
z
130
130
130
130
131

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



465
468
404
406
406
406
j
405
h
AA
g
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x
AA
468A
469
468B
AA
468B
455
456
456
444
443
442
442
442
441
437
436A
j
436
439
439
438
440
a
454
450
410
AA
409
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407
408
b
451
421
421
421
422
423
421
421
n
m
421
421
420
421
AA
426
417
416
414
AA
425A
425
415
413
424
412
411
AA
419
419
419
419
419
n
m
418
431
c
d
AA
429
430
460
459
462
462
461
427
428
x
h
476
475
403
402
g
BB
AA
401
454
452
435
434
d
433
432
c
b
458
457
449
448
BB
BB
454
453
446
447
447
a
445
AA
478
470
466
467
479
479

Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

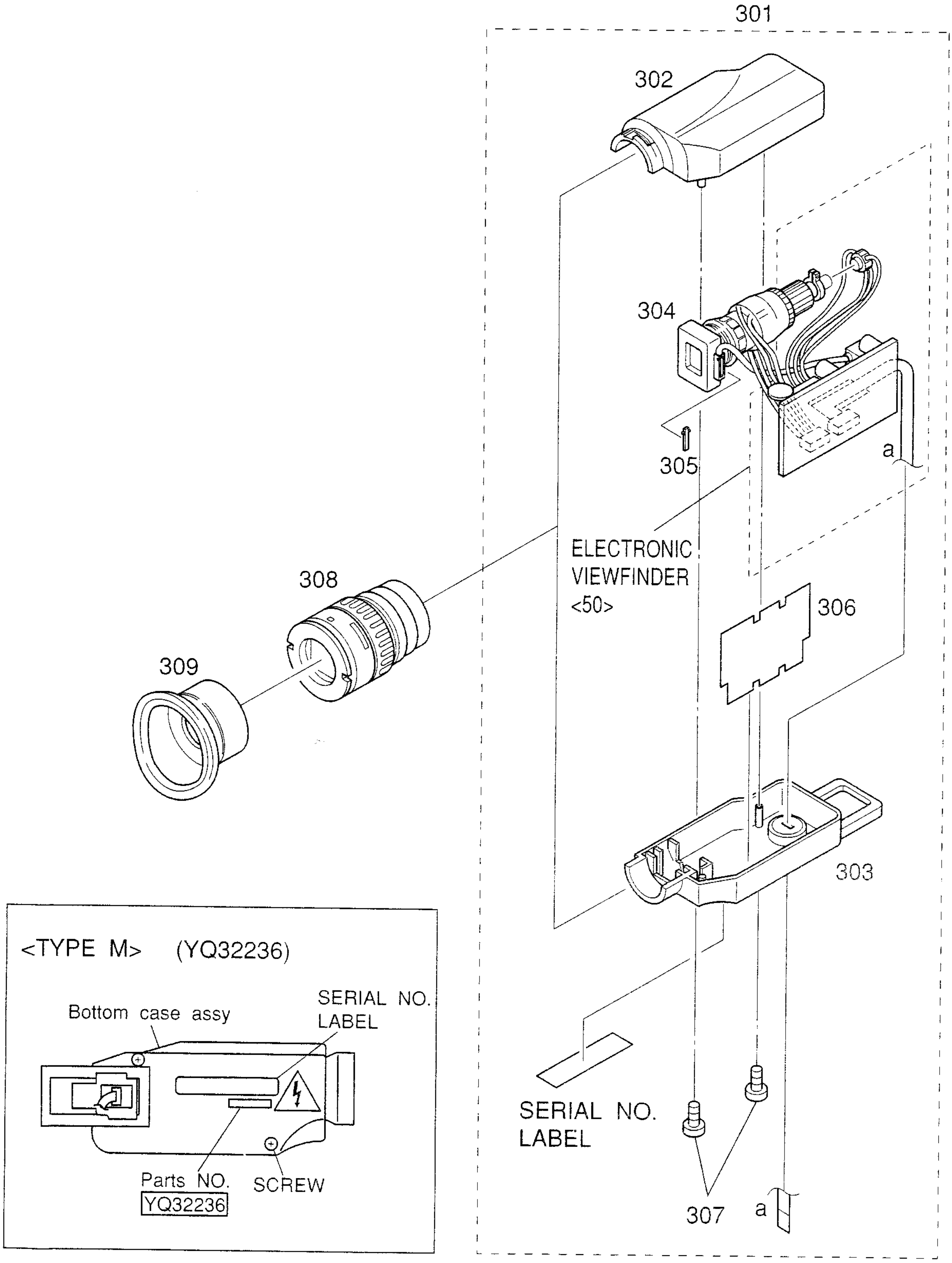
NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

****

MECHANISM ASSEMBLY <M3>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	LY20182-001A	MAIN DECK ASSY
402	YQ32218	CASS.GUIDE(L)
403	YQ44457	SCREW
404	YQ31856A-3	MOTOR BRACKET ASSY
405	YQ20793	WORM BRACKET
406	YQ44457	SCREW,X3
407	YQ31783	WHEEL GEAR
408	YQ44328	MIDDLE GEAR
409	YQ43849B	CANCEL LEVER ASSY
410	PQM30017-27	SLIT WASHER,X2
411	YQ20827-2-1	CONTROL CAM
412	LY30015-001A	SLIT WASHER
413	YQ43853A	LOADING GEAR(T)ASSY
414	PQM30017-27	SLIT WASHER
415	YQ43852A	LOADING GEAR(S)ASSY
416	PQM30017-27	SLIT WASHER
417	YQ43634	COVER PLATE
418	YQ43635C-11	LOADING RING ASSY
419	YQ44457	SCREW,X4
420	YQ10516-1-11	GUIDE RAIL
421	YQ44457-5	SCREW,X8
422	YQ43646A-4	SUPPLY POLE BASE ASSY
423	YQ43654A-11	TAKE-UP POLE BASE ASSY
424	YQ44439A-2	DRIVE LEVER ASSY
425	YQ43663C-7	SLANT ARM ASSY
425A	YQ43670	TOR.SPRING(S)
426	PQM30017-27	SLIT WASHER
427	YQ44436A-3	ROLLER BASE ASSY
428	YQ44457	SCREW
429	YQ32230	LINK LEVER
430	YQ43682B	LINK ARM ASSY
431	PQM30017-25	SLIT WASHER
432	LY40018-001A	PINCH ROLLER ARM ASSY
433	PQM30017-25	SLIT WASHER
434	YQ44591A	TAKE-UP GUIDE ARM ASSY
435	PQM30017-27	SLIT WASHER
436	YQ44199C-7	TENSION ARM ASSY
436A	YQ43848-1-2	TENSION SPRING
437	PQM30017-27	SLIT WASHER
438	YQ20797-1-3	MOTOR BASE
439	YQ44457	SCREW,X2
440	YQ44460	SCREW
441	YU42078-2	CAPSTAN MOTOR
442	YQ44304	TAPPING SCREW,X3
443	YQ43708A-3	SLANT POLE BASE ASSY
444	YQ44304	TAPPING SCREW
445	YQ43710	TIMING BELT
446	YQ43711B-8	CENTER PULLEY UNIT
447	YQ44457-2	SCREW,X2
448	YQ43729A-2	SUPPLY CLUCH ASSY
449	PQM30017-27	SLIT WASHER
450	YQ31861-1-7	REEL DISC
451	Q03093-835	WASHER
452	YQ31787	TAKE-UP GEAR
453	YQ43737	BRAKE SUB GEAR
454	PQM30017-27	SLIT WASHER,X3
455	YQ43738C-15	A/C HEAD UNIT
456	SPSN1750Z	SCREW,X2
457	YQ43743B	EJECT LEVER ASSY
458	PQM30017-27	SLIT WASHER
459	YQ31833-1-1	LED GUIDE
460	YQ44457	SCREW
461	YQ43818	DRUM SPACER
462	YQ44457	SCREW,X2
465	YMA0023A	MECHA(A) ASSY
466	YU42051	BRUSH
467	LY40320-001A	SPECIAL SCREW
468	YDV2084A	DRUM ASSY
468A	YDM1003-1-5	CATCHER
468B	QYSPSPU1735M	SCREW,X2
469	YQ44457	SCREW,X2
470	SPSH1740Z	SCREW
475	YQ32219	SW.LEVER(L)
476	YQ44422-1-1	TORSION SPRING
478	QSW0455-003	ROTARY ENCODER
479	LY40320-002A	SPECIAL SCREW,X2

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4>

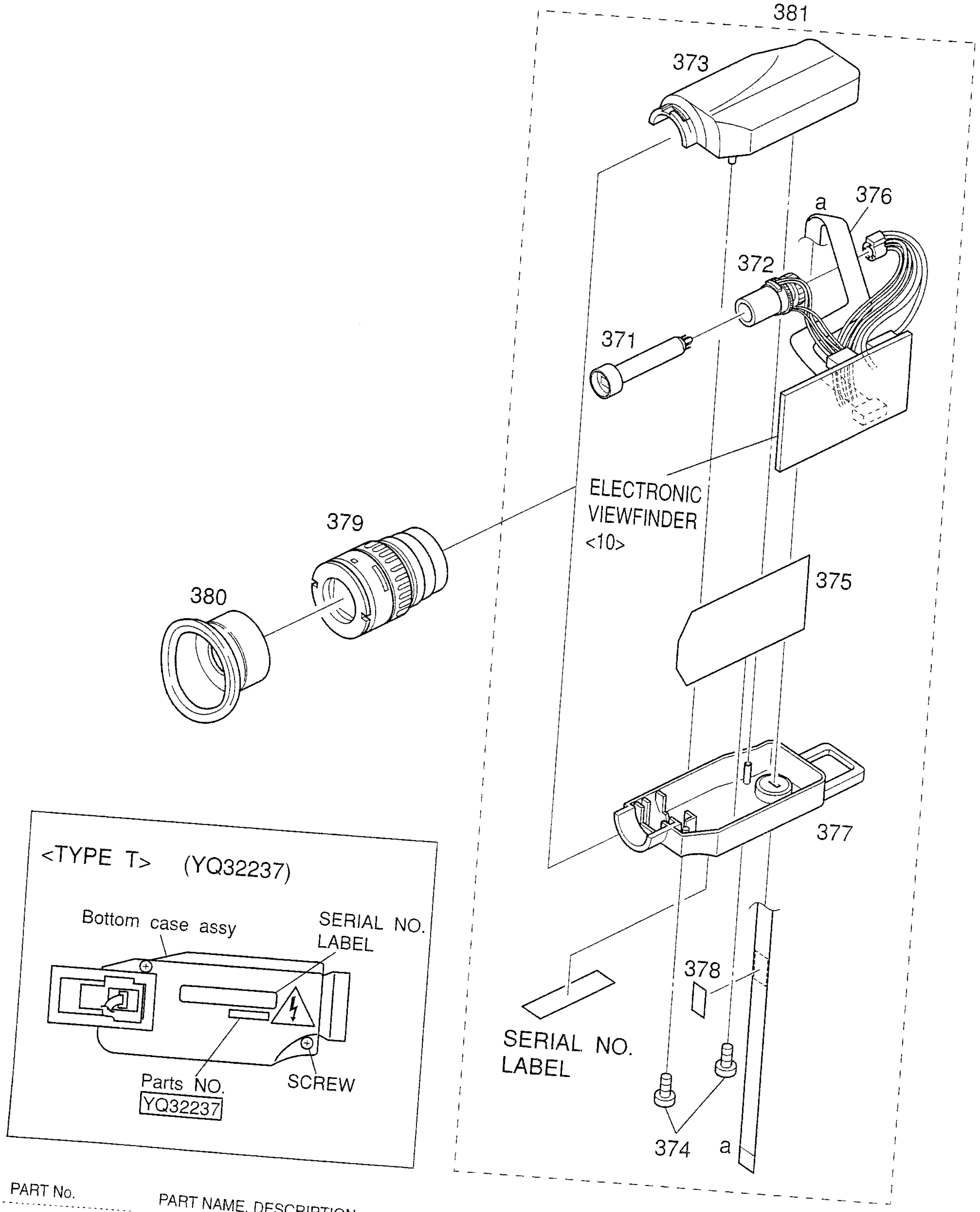

301
302
304
305
ELECTRONIC VIEWFINDER <50>
308
309
306
a
303
SERIAL NO. LABEL
307
a
<TYPE M> (YQ32236)
Bottom case assy
SERIAL NO. LABEL
Parts NO. YQ32236
SCREW

* *

ELECTRONIC VIEWFINDER ASSEMBLY <M4>

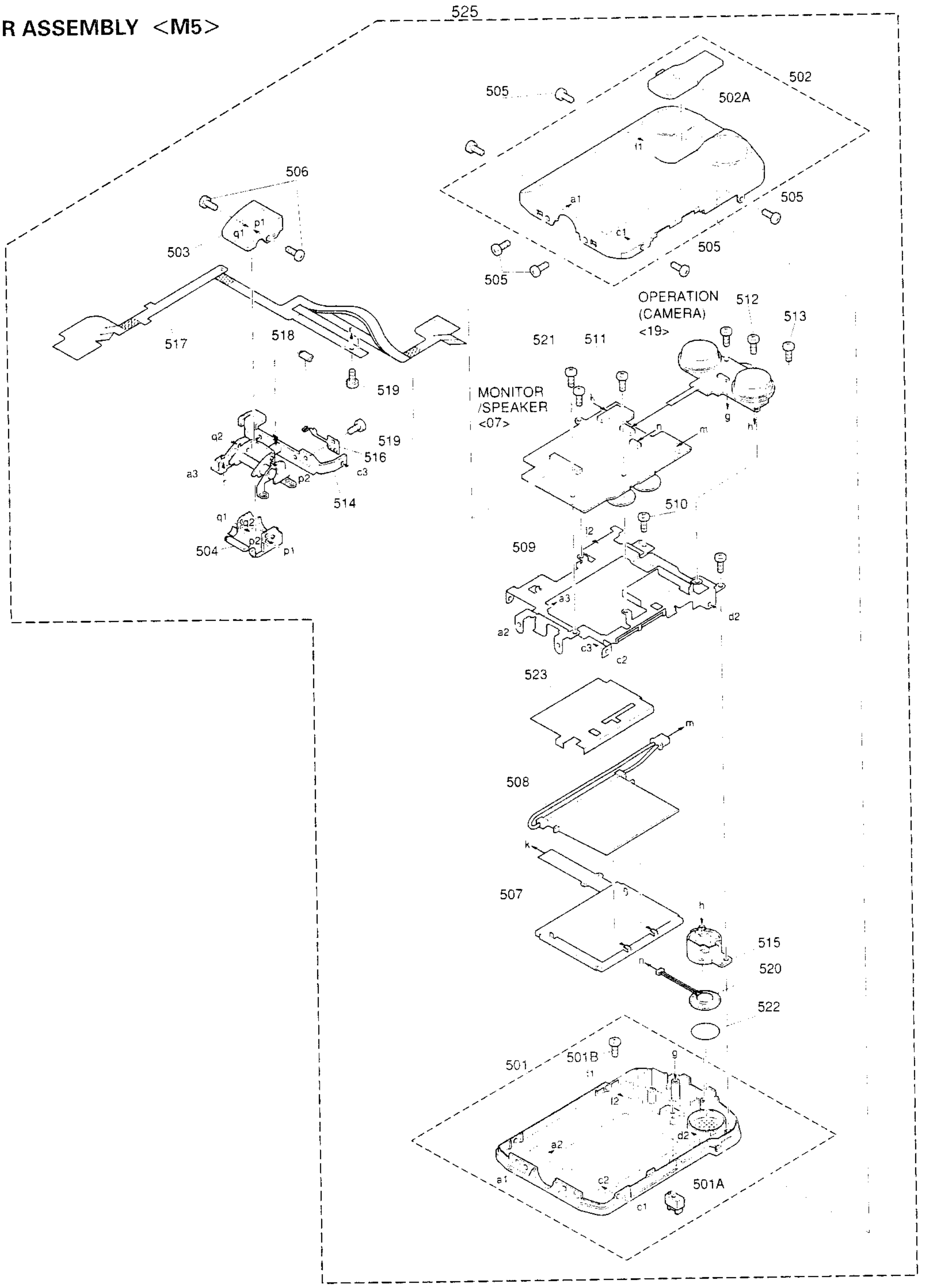
#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	301	YQ32236J-3	EVF ASSY
	⚠	302	YQ32236-001	TOP CASE
	⚠	303	YQ32236-202	BOTTOM CASE ASSY
	⚠	304	YQ31803-001	CRY/DY ASSY
	⚠	305	YU30181-014	HV COVER
	⚠	306	YQ31803-100	INSULATOR
		307	YU30045-014	SCREW,X2 M1.7X5
		308	YQ31803-200	LENS ASSY
		309	YQ31803-201	EYE CAP

5.5 ELECTRONIC VIEWFINDER ASSEMBLY <M4>


381
373
a
376
372
371
ELECTRONIC VIEWFINDER <10>
379
380
375
377
378
SERIAL NO. LABEL
374
a
<TYPE T> (YQ32237)
Bottom case assy
SERIAL NO. LABEL
Parts NO.
YQ32237
SCREW

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
*******************************		
ELECTRONIC VIEWFINDER ASSEMBLY <M4>		
⚠ 371	PEDP0193	CRT
⚠ 372	PELN1179	DEFLECTION YOKE
⚠ 373	YQ10628-2	TOP CASE
374	QYSPSGU1750M	SCREW,X2
⚠ 375	YQ44473	INSULATOR
376	PEWR0819	FPC,CN7002-MAIN1 CN12
377	YQ32237-202	BOTTOM CASE ASSY
378	LY30016-070A	SPACER-A
379	YQ31803-200	LENS ASSY
380	YQ31803-201	EYE CAP
⚠ 381	YQ32237H-3	EVF ASSY

5.6 MONITOR ASSEMBLY <M5>


525
505
502
502A
i1
506
505
a1
c1
503
q1
p1
505
505
505
OPERATION
(CAMERA)
<19>
512
513
517
518
521
511
519
MONITOR
/SPEAKER
<07>
k
n
m
g
h
q2
519
516
a3
p2
c3
514
q1
q2
p2
504
p1
510
i2
509
a3
d2
a2
c3
c2
523
m
508
k
507
h
515
n
520
522
501
501B
i1
g
i2
d2
a2
a1
c2
501A
c1

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
********************************		
MONITOR ASSEMBLY <M5>		
⚠ 501	LY20119-002B	UPPER CASE ASSY
501A	LY30409-001B	CATCHER(MON)
501B	QYSLSF2040D	SCREW
⚠ 502	LY20120-014C	LOWER CASE ASSY
502A	LY30410-004A	WINDOW
503	LY30415-004F	COVER(HINGE.U)
504	LY20129-002D	COVER(HINGE.L)
505	QYSLSP2040D	SCREW,X6
506	QYSLSP2030D	SCREW,X2
507	QLD0015-001	LCD MODULE
508	QLL0026-002	BACK LIGHT
509	LY20121-001A	BRACKET(PWB)
510	QYSLSF2055D	SPECIAL SCREW,X2
511	QYSLSP2030D	SCREW,X2
512	QYSLSF2055D	SCREW,X2
513	QYSLSP2030D	SCREW
514	LY30183-002B	T.HINGE ASSY
515	LY30419-001B	HOLDER(SPEAKER)
516	LY30420-001D	PLATE(SW)
517	QAL0091-001	FPC,MONITOR CN71-MAIN1 CN16
518	NSW0090-001	PUSH SWITCH
519	QYSLSP2030D	SCREW,X2
520	QAS0004-001	SPEAKER
521	LY30019-009A	SPECIAL SCREW
522	LY40717-001A	SPACER(SPK)
523	LY40935-001A	SHEET(3INCH)
⚠ 525	YS20945T	MONITOR ASSY

5.7 ELECTRICAL PARTS LIST

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MAIN1 BOARD ASSEMBLY <01>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW1	YB10213GM1-02	MAIN1 BOARD ASSY	
IC101	UPD703008-017	IC(MICRO C ROM)	
	or UPD70F3008-017	IC(MICRO C ROM)	
	or UPD70F3008-022	IC(MICRO C ROM)	
	or UPD703008-022	IC(MICRO C ROM)	
IC102	S-81333HG-KF-X	IC	
IC103	PST9127N	IC	
IC104	RS5C314	IC	
IC105	NM25C040LZEM8	IC	
IC108	JCY0075	IC	
IC109	UPD6462GS-908-X	IC(MICRO C ROM)	
IC110	TC74VHC00FT	IC	
IC3001	HA118186F	IC	
IC3051	NJM2534M-XE	IC	
IC3101	TL8850AF	IC	
IC4001	JCY0072A	IC	
IC4002	MM1385RN	IC	
IC4003	MM1304XJ	IC	
IC4005	MM1385EN	IC	
IC4201	NJM3414AV	IC	
IC4202	BA10324AF	IC	
IC4203	TC7S08F	IC(DIGITAL)	
IC4301	M62368GP	IC	
IC4501	UPD16835G3	IC	
⚠ IC6001	FA3621F	IC	
Q101	2SA1774/RS/-X	TRANSISTOR	
Q102	DTC144EE	TRANSISTOR	
Q103	DTA114EE	TRANSISTOR	
Q104	2SC4617/QR/-X	TRANSISTOR	
Q107	DTC144EE	TRANSISTOR	
Q108	2SC4617/QR/-X	TRANSISTOR	
Q109	DTC124EE	TRANSISTOR	
Q110	2SA1774/RS/-X	TRANSISTOR	
Q111	DTC144EE	TRANSISTOR	
Q112	DTA124EE	TRANSISTOR	
Q3101	UMX2N	PAIR TRANSISTOR	
Q3102	UMX2N	PAIR TRANSISTOR	
Q3103	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q3104	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q3201	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q3203	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q3204	2SC4617/QR/-X	TRANSISTOR	
Q3205	2SC4617/QR/-X	TRANSISTOR	
Q3206	2SC4617/QR/-X	TRANSISTOR	
Q3209	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q4001	2SC4617/RS/-X	TRANSISTOR	
Q4002	2SC4617/RS/-X	TRANSISTOR	
Q4005	2SC4617/RS/-X	TRANSISTOR	
Q4006	2SC4617/RS/-X	TRANSISTOR	
Q4007	2SC4617/RS/-X	TRANSISTOR	
Q4201	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q4202	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q4203	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q4204	2SC4617/QR/-X	TRANSISTOR	
	or 2SC4738/YG/-X	TRANSISTOR	
Q4205	DTC144EE	TRANSISTOR	
	or RN1104	TRANSISTOR	
Q4206	2SB1218A/QR/-X	TRANSISTOR	
Q4501	2SC4617/QR/-X	TRANSISTOR	
Q4502	2SC4617/QR/-X	TRANSISTOR	
Q4503	2SC4617/QR/-X	TRANSISTOR	
Q4504	2SC4617/QR/-X	TRANSISTOR	
Q6001	2SB1302/ST/-X	TRANSISTOR	
Q6004	2SB1121/ST/-X	TRANSISTOR	
Q6006	2SB1302/ST/-X	TRANSISTOR	
Q6007	2SC4617/QRS/-X	TRANSISTOR	
Q6009	MPL1	TRANSISTOR	
Q6011	2SK1467	FE TRANSISTOR	
Q6012	2SJ187	MOS FET	
Q6013	2SC4081/S/-X	TRANSISTOR	
Q6024	2SA1774/QRS/-X	TRANSISTOR	
D101	MA8075/M/-X	ZENER DIODE	
D103	1SS355	DIODE	
D104	RB751V-40-X	SB DIODE	
D3053	DAN222	DIODE	
D4501	MA728	DIODE	
D6001	MA736	SB DIODE	
D6002	MA736	SB DIODE	
D6007	1SS355	DIODE	
D6008	1SS355	DIODE	
D6010	1SS355	DIODE	
⚠ DA101	RB715F	SB DIODE	
DA102	DAN222	DIODE	
DA104	DAN222	DIODE	
DA105	RB717F	SB DIODE	
DA106	DAN222	DIODE	
DA107	DAN222	DIODE	
R101	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R102	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R103	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R104	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R105	NRVA63D-243X	CMF RESISTOR	24kΩ,1/16W
R106	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
R107	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R108	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R109	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R110	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R111	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R112	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R113	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R114	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R115	NRSA63J-124X	MG RESISTOR	120kΩ,1/16W
R116	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
R117	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R118	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R119	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R120	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R122	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R124	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R125	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R126	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R127	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R128	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R129	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R130	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R131	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R132	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R133	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R134	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R135	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R136	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R137	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R138	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R139	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R140	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R141	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
⚠ R146	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R147	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R148	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R149	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R150	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R151	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R152	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R153	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R154	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R155	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R156	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R157	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R158	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R159	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R160	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R161	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R162	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R163	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R164	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R165	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R166	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R167	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R168	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R169	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R170	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R171	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R172	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R173	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R174	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R175	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R176	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R177	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R178	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R179	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R180	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R181	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R183	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R184	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R185	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R187	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R188	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R189	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R190	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R192	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3001	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3002	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R3003	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
R3004	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3012	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3013	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R3014	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3015	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
R3016	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R3019	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3020	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3021	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3022	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3023	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3024	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R3025	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R3026	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3027	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3029	NRVA63D-562X	CMF RESISTOR	5.6kΩ,1/16W
R3035	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3036	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3037	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3039	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3040	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3052	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3061	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3062	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3064	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3067	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3068	NRSA02J-680X	MG RESISTOR	68Ω,1/10W
R3100	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3101	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3103	NRSA63J-181X	MG RESISTOR	180Ω,1/16W
R3104	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3107	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3108	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3109	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3111	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R3112	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3113	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3114	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3115	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R3116	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R3117	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R3118	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3119	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3120	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R3201	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3202	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3204	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R3205	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3206	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R3207	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3208	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R3209	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3210	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3211	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R3212	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3213	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
R3214	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3215	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3216	NRSA63J-561X	MG RESISTOR	560Ω,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R3217	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R3218	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R3219	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3220	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3221	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R3222	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R3225	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R3229	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3230	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R3304	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3313	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R3401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4001	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4004	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4005	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R4006	NRVA63D-912X	CMF RESISTOR	9.1kΩ,1/16W
R4007	NRVA63D-163X	CMF RESISTOR	16kΩ,1/16W
R4008	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R4009	NRVA63D-153X	CMF RESISTOR	15kΩ,1/16W
R4010	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R4011	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R4012	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R4013	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R4014	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4015	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4016	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4017	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4018	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4019	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4020	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4021	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4022	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4023	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4024	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4025	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4026	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
R4027	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R4028	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R4038	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
R4039	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R4040	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R4041	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
R4043	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4049	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4050	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4051	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R4052	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4053	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4054	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W
R4056	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4060	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4061	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4201	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R4202	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R4203	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R4205	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R4207	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
R4208	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R4209	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R4211	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
R4212	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R4213	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R4214	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R4215	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R4216	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R4217	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R4218	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
R4219	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R4220	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R4221	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4222	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R4223	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4224	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R4225	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R4226	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4227	NRSA63J-334X	MG RESISTOR	330kΩ,1/16W
R4228	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
R4229	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4230	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4231	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
R4232	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R4233	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R4501	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R4502	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
R4503	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4504	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4505	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4506	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R4507	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R4508	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R4510	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
R4511	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
⚠ R4512	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠ R4513	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠ R4514	NPSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
⚠ R4515	NRSA63J-6R8X	MG RESISTOR	6.8Ω,1/16W
R4516	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R4517	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R4519	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6002	NRVA63D-622X	CMF RESISTOR	6.2kΩ,1/16W
R6003	NRVA63D-683X	CMF RESISTOR	68kΩ,1/16W
R6004	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R6005	NRVA63D-683X	CMF RESISTOR	68kΩ,1/16W
R6006	NRVA63D-244X	CMF RESISTOR	240kΩ,1/16W
R6011	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
R6012	NRVA63D-363X	CMF RESISTOR	36kΩ 1/16W
R6013	NRVA63D-912X	CMF RESISTOR	9.1kΩ,1/16W
R6016	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R6017	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
R6019	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R6020	NRVA63D-393X	CMF RESISTOR	39kΩ,1/16W
R6021	NRVA63D-163X	CMF RESISTOR	16kΩ,1/16W
R6022	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R6023	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
R6024	NRVA63D-243X	CMF RESISTOR	24kΩ,1/16W
R6025	NRVA63D-332X	CMF RESISTOR	3.3kΩ,1/16W
R6026	NRVA63D-682X	CMF RESISTOR	6.8kΩ,1/16W
R6027	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R6028	NRVA63D-823X	CMF RESISTOR	82kΩ,1/16W
R6036	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6038	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R6039	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R6040	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6041	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R6042	NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W
R6043	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6054	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6055	NRSA63J-114X	MG RESISTOR	110kΩ,1/16W
R6056	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6057	NRSA63J-114X	MG RESISTOR	110kΩ,1/16W
R6058	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
R6060	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R6067	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R6073	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R6076	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
RA101	NRZ0015-222X	NETWORK RESISTOR	2.2kΩ
RA102	NRZ0015-222X	NETWORK RESISTOR	2.2kΩ
RA103	NRZ0015-222X	NETWORK RESISTOR	2.2kΩ
RA104	NRZ0012-331X	NETWORK RESISTOR	330Ω
RA105	NRZ0015-222X	NETWORK RESISTOR	2.2kΩ
RA107	NRZ0015-222X	NETWORK RESISTOR	2.2kΩ
RA108	NRZ0012-331X	NETWORK RESISTOR	330Ω
C101	NEA71CM-226X	E CAPACITOR	22μF,16V
C102	NBE41AM-106X	T CAPACITOR	10μF,10V
C103	NCB31CK-104X	CAPACITOR	0.1μF,16V
C104	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C105	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C106	NEA70JM-226X	E CAPACITOR	22μF,6.3V
C107	NCB31EK-103X	CAPACITOR	0.01μF,25V
C108	NCB31EK-103X	CAPACITOR	0.01μF,25V
C109	NCB21CK-474X	CAPACITOR	0.47μF,16V
C110	NCB31CK-333X	CAPACITOR	0.033μF,16V
C111	NDC31HJ-150X	CAPACITOR	15pF,50V
C112	NDC31HJ-100X	CAPACITOR	10pF,50V
C113	NDC31HJ-120X	CAPACITOR	12pF,50V
C114	NCB31CK-333X	CAPACITOR	0.033μF,16V
C116	NCB31EK-103X	CAPACITOR	0.01μF,25V
C117	NCB31EK-103X	CAPACITOR	0.01μF,25V
C118	NCB31EK-103X	CAPACITOR	0.01μF,25V
C119	NEA71CM-106X	E CAPACITOR	10μF,16V
C120	NDC31HJ-101X	CAPACITOR	100pF,50V
C122	NCB31EK-103X	CAPACITOR	0.01μF,25V
C123	NCB31EK-103X	CAPACITOR	0.01μF,25V
C124	NCB31EK-103X	CAPACITOR	0.01μF,25V
C125	NCB31EK-103X	CAPACITOR	0.01μF,25V
C126	NDC31HJ-121X	CAPACITOR	120pF,50V
C128	NDC31HJ-151X	CAPACITOR	150pF,50V
C130	NDC31HJ-270X	CAPACITOR	27pF,50V
C131	NCB31EK-103X	CAPACITOR	0.01μF,25V
C132	NCB31EK-103X	CAPACITOR	0.01μF,25V
C133	NCB31EK-103X	CAPACITOR	0.01μF,25V
C134	NCB31EK-103X	CAPACITOR	0.01μF,25V
C135	NCB31EK-103X	CAPACITOR	0.01μF,25V
C136	NCB31EK-103X	CAPACITOR	0.01μF,25V
C137	NCB31EK-103X	CAPACITOR	0.01μF,25V
C138	NCB31EK-103X	CAPACITOR	0.01μF,25V
C139	NCB31EK-103X	CAPACITOR	0.01μF,25V
C140	NCB31EK-103X	CAPACITOR	0.01μF,25V
C141	NCB31EK-103X	CAPACITOR	0.01μF,25V
C142	NCB31EK-103X	CAPACITOR	0.01μF,25V
C143	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3001	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3002	NCB31CK-333X	CAPACITOR	0.033μF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3003	NCB21AK-105X	CAPACITOR	1μF,10V
C3004	NCB31EK-153X	CAPACITOR	0.015μF,25V
C3005	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C3006	NCB21AK-105X	CAPACITOR	1μF,10V
C3007	NDC31HG-390X	CAPACITOR	39pF,50V
C3010	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3011	NCB31EK-223X	CAPACITOR	0.022μF,25V
C3012	NCB21EK-683X	CAPACITOR	0.068μF,25V
C3013	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3014	NCB31HK-102X	CAPACITOR	0.001μF,50V
C3015	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3017	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3019	NCB21CK-474X	CAPACITOR	0.47μF,16V
C3020	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3021	NCB21CK-474X	CAPACITOR	0.47μF,16V
C3022	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C3023	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C3024	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3026	NCB31CK-104X	CAPACITOR	0.1μF,16V
C3027	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C3028	NCB31EK-223X	CAPACITOR	0.022μF,25V
C3029	NDC31HJ-8R0X	CAPACITOR	8pF,50V
C3030	NCB21CK-474X	CAPACITOR	0.47μF,16V
C3031	NDC31HJ-331X	CAPACITOR	330pF,50V
C3032	NDC31HJ-330X	CAPACITOR	33pF,50V
C3033	NCB21CK-224X	CAPACITOR	0.22μF,16V
C3034	NDC31HJ-151X	CAPACITOR	150pF,50V
C3036	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C3037	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3038	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3039	NCB31CK-473X	CAPACITOR	0.047μF,16V
C3040	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C3041	NDC31HJ-150X	CAPACITOR	15pF,50V
C3044	NDC31HJ-151X	CAPACITOR	150pF,50V
C3051	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3052	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3053	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3054	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3101	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3102	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3103	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3104	NCB11CK-105X	CAPACITOR	1μF,16V
C3105	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C3106	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3107	NDC31HJ-101X	CAPACITOR	100pF,50V
C3108	NDC31HJ-330X	CAPACITOR	33pF,50V
C3110	NDC31HJ-330X	CAPACITOR	33pF,50V
C3111	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C3112	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C3113	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3114	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3115	NCB31EK-472X	CAPACITOR	0.0047μF,25V
C3116	NDC31HJ-680X	CAPACITOR	68pF,50V
C3117	NDC31HJ-5R0X	CAPACITOR	5pF,50V
C3118	NDC31HJ-151X	CAPACITOR	150pF,50V
C3120	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3121	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3122	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3201	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3202	NCF31CZ-104X	CAPACITOR	0.1μF,16V
C3203	NCB31EK-103X	CAPACITOR	0.01μF,25V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C3204	NDC31HJ-560X	CAPACITOR	56pF,50V
C3205	NDC31HJ-180X	CAPACITOR	18pF,50V
C3206	NDC31HJ-101X	CAPACITOR	100pF,50V
C3207	NDC31HJ-181X	CAPACITOR	180pF,50V
C3208	NDC31HJ-101X	CAPACITOR	100pF,50V
C3209	NDC31HJ-331X	CAPACITOR	330pF,50V
C3210	NDC31HJ-120X	CAPACITOR	12pF,50V
C3211	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3212	NDC31HJ-390X	CAPACITOR	39pF,50V
C3213	NDC31HJ-3R0X	CAPACITOR	3pF,50V
C3214	NDC31HJ-121X	CAPACITOR	120pF,50V
C3215	NDC31HJ-101X	CAPACITOR	100pF,50V
C4001	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4002	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4003	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4004	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4005	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4006	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4007	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4008	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C4009	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4010	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C4011	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4012	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4013	NCB21AK-105X	CAPACITOR	1μF,10V
C4014	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4015	NBE20GM-336X	T CAPACITOR	33μF,4.0V
C4016	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4017	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4018	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4021	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4022	NCB31CK-104X	CAPACITOR	0.1μF,16V
C4023	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4025	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4026	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4027	NCB21AK-105X	CAPACITOR	1μF,10V
C4032	NBE41AM-106X	T CAPACITOR	10μF,10V
C4033	NCB21AK-105X	CAPACITOR	1μF,10V
C4034	NCF31EZ-104X	CAPACITOR	0.1μF,25V
C4201	NBE41AM-106X	T CAPACITOR	10μF,10V
C4202	NCB31CK-104X	CAPACITOR	0.1μF,16V
C4203	NCB31CK-104X	CAPACITOR	0.1μF,16V
C4205	NCB31EK-103X	CAPACITOR	0.01μF,25V
C4207	NCB21EK-104X	CAPACITOR	0.1μF,25V
C4208	NCB21EK-104X	CAPACITOR	0.1μF,25V
C4210	NCF21CZ-105X	CAPACITOR	1μF,16V
C4211	NCF21CZ-105X	CAPACITOR	1μF,16V
C4213	NCB31EK-103X	CAPACITOR	0.01μF,25V
C4301	NCB31EK-103X	CAPACITOR	0.01μF,25V
C4501	NEA71CM-106X	E CAPACITOR	10μF,16V
C4502	NCB31CK-104X	CAPACITOR	0.1μF,16V
C4503	NEA71CM-107X	E CAPACITOR	100μF,16V
C4504	NCB31CK-104X	CAPACITOR	0.1μF,16V
C4505	NDC31HJ-330X	CAPACITOR	33pF,50V
C4506	NCB31HK-102X	CAPACITOR	0.001μF,50V
C4507	NCB31HK-102X	CAPACITOR	0.001μF,50V
C4508	NCB31HK-102X	CAPACITOR	0.001μF,50V
C4509	NCB31HK-102X	CAPACITOR	0.001μF,50V
C4510	NCB31EK-103X	CAPACITOR	0.01μF,25V
C4511	NCB31CK-104X	CAPACITOR	0.1μF,16V
C6001	NCB11CK-105X	CAPACITOR	1μF,16V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C6003	NCB11CK-105X	CAPACITOR	1μF,16V
C6005	NDC31HJ-391X	CAPACITOR	390pF,50V
C6006	NCB31EK-103X	CAPACITOR	0.01μF,25V
C6009	NCB21AK-105X	CAPACITOR	1μF,10V
C6010	NCB31CK-104X	CAPACITOR	0.1μF,16V
C6011	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C6012	NCB31HK-472X	CAPACITOR	0.0047μF,50V
C6013	NCB31HK-272X	CAPACITOR	0.0027μF,50V
C6014	NCB31CK-683X	CAPACITOR	0.068μF,16V
C6015	NCB31CK-104X	CAPACITOR	0.1μF,16V
C6016	NCB31CK-104X	CAPACITOR	0.1μF,16V
C6017	NCB31EK-103X	CAPACITOR	0.01μF,25V
C6018	NCB31EK-103X	CAPACITOR	0.01μF,25V
C6019	NCB31EK-103X	CAPACITOR	0.01μF,25V
C6021	NCB11CK-105X	CAPACITOR	1μF,16V
C6022	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C6023	NCB11CK-105X	CAPACITOR	1μF,16V
C6024	NDC31HJ-471X	CAPACITOR	470pF,50V
C6025	NCB11CK-105X	CAPACITOR	1μF,16V
C6027	NCB11CK-105X	CAPACITOR	1μF,16V
C6028	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C6029	NCB11CK-225X	CAPACITOR	2.2μF,16V
C6030	NDC31HJ-221X	CAPACITOR	220pF,50V
C6031	NCB11AK-475X	CAPACITOR	4.7μF,10V
C6036	NCB11CK-105X	CAPACITOR	1μF,16V
C6037	NCB31HK-152X	CAPACITOR	0.0015μF,50V
C6039	NCB11CK-105X	CAPACITOR	1μF,16V
C6047	NCB11CK-105X	CAPACITOR	1μF,16V
C6049	NCB11CK-105X	CAPACITOR	1μF,16V
C6051	NCB11CK-105X	CAPACITOR	1μF,16V
C6055	NCB11CK-474X	CAPACITOR	0.47μF,16V
C6056	NCB31HK-102X	CAPACITOR	0.001μF,50V
C6057	NCB11CK-105X	CAPACITOR	1μF,16V
C6060	NCB21CK-224X	CAPACITOR	0.22μF,16V
C6062	NCF21CZ-105X	CAPACITOR	1μF,16V
C6065	NCB11HK-103X	CAPACITOR	0.01μF,50V
C6066	NCB11CK-105X	CAPACITOR	1μF,16V
C6067	NEA71CM-106X	E CAPACITOR	10μF,16V
C6068	NCB11CK-105X	CAPACITOR	1μF,16V
C6071	NCF31AZ-105X	CAPACITOR	1μF,10V
L101	NQL034K-330X	COIL	33μH
L102	NQL184J-100X	COIL	10μH
⚠ L3001	NQL164K-220X	COIL	22μH
L3002	NQL164K-470X	COIL	47μH
L3004	NQL085J-390X	COIL	39μH
L3005	NQL184J-470X	COIL	47μH
L3101	NQL164K-220X	COIL	22μH
L3102	NQL085J-100X	COIL	10μH
L3104	NQL085J-390X	COIL	39μH
L3201	NQL164K-470X	COIL	47μH
L3202	NQL085J-270X	COIL	27μH
L3203	NQL184J-331X	COIL	330μH
L3204	NQL184J-181X	COIL	180μH
L3205	NQL085J-180X	COIL	18μH
L3206	NQL085J-560X	COIL	56μH
L3207	NQL085J-330X	COIL	33μH
L3208	NQL184J-101X	COIL	100μH
L4001	NRS181J-330X	MG RESISTOR	33Ω,1/8W
L4002	NQL164K-101X	COIL	100μH
L4201	NQL114K-220X	COIL	22μH
L4501	NQL034K-220X	COIL	22μH

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L4502	NQL034K-220X	COIL	22µH
	L6001	NQL17CM-100X	COIL	10µH
	L6002	NQL17CM-100X	COIL	10µH
	L6003	NQL17CM-390X	COIL	39µH
	L6004	NQL17CM-100X	COIL	10µH
	L6005	NQL17CM-470X	COIL	47µH
	L6007	NQL17CM-680X	COIL	68µH
	L6008	NRS12BJ-0R0X	COIL	0µH
	L6010	NQL03BK-150X	COIL	15µH
	L6011	NQL17CM-221X	COIL	220µH
	L6012	NRS181J-0R0X	MG RESISTOR	0Ω,1/8W
	L6013	NRS181J-0R0X	MG RESISTOR	0Ω,1/8W
	L6014	NRS181J-0R0X	MG RESISTOR	0Ω,1/8W
	FL3001	NQR0261-001X	LC TRAP	
	X101	QAX0342-001	CRYSTAL RESONATOR	
	X102	QAX0008-001	CRYSTAL RESONATOR	
	X3001	PEVB0560	CRYSTAL RESONATOR	
	T6001	NQS0020-001X	SW TRANSF	
	CN11	QGA1002F2-13X	CONNECTOR	
	CN12	QGF0507F1-10X	FPC CONNECTOR	
	CN13	QGF0507F1-12X	FPC CONNECTOR	
	CN15	QGF0503C1-22X	FFC/FPC CONNECTOR	
	CN16	QGF0506F1-38X	FPC CONNECTOR	
	CN21	QGB0501M1-60X	CONNECTOR	
	CN22	PEWR0835	LEAD BUS CONNCTOR,CCD CN51 ※	
	CN23	QGF0501F2-07X	FPC CONNECTOR	
	CN25	QGB0801K2-30X	CONNECTOR	
⚠	CP6001	ICP-S0.5-X	CIRCUIT PROTECTOR	
⚠	CP6002	ICP-S1.8-X	CIRCUIT PROTECTOR	
⚠	CP6003	ICP-S1.8-X	CIRCUIT PROTECTOR	
⚠	CP6004	ICP-S0.5-X	CIRCUIT PROTECTOR	
	SD1	LY40558-001A	SHIELD SHEET	
	SD2	LY40559-001A	SHIELD SHEET	

※ NOT INCL.MAIN1 BOARD ASSY

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CCD BOARD ASSEMBLY <02>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW2	YB10213GM2-02	CCD BOARD ASSY	
	IC5201	JCY0071A	IC	
	IC5202	HD49322BF	IC	
	IC5203	MM1385HN	IC	
	Q5201	2SC4181	TRANSISTOR	
	D5201	1SS355	DIODE	
	R5201	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5202	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5203	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5204	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5205	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5207	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5208	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5209	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5210	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5211	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5212	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5213	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R5214	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
	R5216	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
	R5217	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R5219	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5220	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5221	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5222	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5223	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5224	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5225	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5226	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5227	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R5228	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R5229	NRSA63J-243X	MG RESISTOR	24kΩ,1/16W
	C5201	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5202	NCB21AK-105X	CAPACITOR	1µF,10V
	C5203	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5204	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5205	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5206	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5207	NBE41VM-105X	T CAPACITOR	1µF,35V
	C5208	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5209	NCF31EZ-104X	CAPACITOR	0.1µF,25V
	C5210	NCB21EK-104X	CAPACITOR	0.1µF,25V
	C5211	NCB31HK-152X	CAPACITOR	0.0015µF,50V
	C5212	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C5213	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5214	NBE51CM-336X	T CAPACITOR	33µF,16V
	C5215	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5216	NCF31EZ-104X	CAPACITOR	0.1µF,25V
	C5217	NBE51EM-106X	T CAPACITOR	10µF,25V
	C5218	NCB21AK-105X	CAPACITOR	1µF,10V
	C5219	NBE50GM-107X	T CAPACITOR	100µF,4.0V
	C5220	NBE50GM-107X	T CAPACITOR	100µF,4.0V
	C5221	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5222	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5223	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5224	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5225	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5226	NBE21EM-105X	T CAPACITOR	1µF,25V
	C5227	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C5228	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C5229	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C5230	NCB31CK-104X	CAPACITOR	0.1µF,16V
	C5231	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5232	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5233	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5234	NCB11CK-105X	CAPACITOR	1µF,16V
	C5235	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5237	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	C5239	NCF31EZ-104X	CAPACITOR	0.1µF,25V
	C5240	NCF31CZ-104X	CAPACITOR	0.1µF,16V
	L5201	NQL164K-101X	COIL	100µH
	L5203	NQL164K-101X	COIL	100µH
	L5204	NQL164K-101X	COIL	100µH
	X5201	NAX0162-001X	CXO	
	CN5201	PEMC1071	CCD SOCKET	

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SENSOR BOARD ASSEMBLY <03>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PW	YB10220J-02	SENSOR BOARD ASSY	
	IC1201	BA8400FV	IC	
⚠	IC1601	BA6865KV	IC	
	IC2001	BA7751AFS	IC	
	IC2071	BA15218F-XE	IC	
	IC3501	M52385FP	IC	
	Q1001	SPI-336-95-CD-X	IC(PHOTO SENSOR)	
	Q1002	SPI-336-95-CD-X	IC(PHOTO SENSOR)	
	Q1003	PN207-/NCLF/VI	PHOTO TRANSISTOR	
	Q1004	PN207-/NCLF/VI	PHOTO TRANSISTOR	
	Q2001	2SA1774/QR/-X	TRANSISTOR	
	Q2002	2SA1774/QR/-X	TRANSISTOR	
	Q2003	DTC144EE	TRANSISTOR	
	Q2004	2SC4097/QR/-X	TRANSISTOR	
	Q2005	UMX1N	PAIR TRANSISTOR	
	Q2006	DTA114EE	TRANSISTOR	
	Q2007	DTC144EE	TRANSISTOR	
	Q2019	2SC4617/QR/-X	TRANSISTOR	
	Q2020	DTC144EE	TRANSISTOR	
	Q2071	DTC144EE	TRANSISTOR	
	Q2072	2SC4617/QR/-X	TRANSISTOR	
	Q2073	2SC4617/QR/-X	TRANSISTOR	
	Q2074	2SC4617/QR/-X	TRANSISTOR	
	Q3501	2SD2114K/UV/-X	TRANSISTOR	
	Q3502	2SD2114K/UV/-X	TRANSISTOR	
	Q3503	2SD2114K/UV/-X	TRANSISTOR	
	Q3504	2SD2114K/UV/-X	TRANSISTOR	
	Q3506	DTC144EE	TRANSISTOR	
	Q3507	DTC144EE	TRANSISTOR	
	Q3509	2SC4617/QRS/-X	TRANSISTOR	
	Q3901	2SC4617/R/-X	TRANSISTOR	
	Q3902	2SC4617/R/-X	TRANSISTOR	
	Q3903	DTC114EE	TRANSISTOR	
	Q3904	DTA114EE	TRANSISTOR	
	Q3905	DTC144EE	TRANSISTOR	
	QA1601	BA6254FS	TR ARRAY	
	QA1602	BA6254FS	TR ARRAY	
	D1001	LN57-/LF/VI	LE DIODE	
	R1201	NRSA63J-824X	MG RESISTOR	820kΩ,1/16W
	R1202	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
	R1203	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R1204	NRSA63J-274X	MG RESISTOR	270kΩ,1/16W
	R1601	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1602	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
	R1603	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
	R1604	NRSA63J-224X	MG RESISTOR	220kΩ,1/16W
	R1605	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
	R1606	NRV142F-R33X	CMF RESISTOR	0.33Ω,1/4W
	R1607	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
	R1608	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
	R1609	NRS12BK-R68W	MG RESISTOR	0.68Ω,1/2W
	R1610	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1611	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1612	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R1613	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R1614	NRSA63J-154X	MG RESISTOR	150kΩ,1/16W
	R1615	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
	R1616	NRVA63D-202X	CMF RESISTOR	2kΩ,1/16W
	R1617	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R1618	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
	R1619	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
	R1620	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1621	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1622	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1623	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1624	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R1625	NRSA63J-271X	MG RESISTOR	270Ω,1/15W
	R1626	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R1627	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R1628	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
	R1629	NRSA63J-684X	MG RESISTOR	680kΩ,1/16W
	R2001	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2002	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2004	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2006	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2007	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
	R2008	NRSA63J-3R3X	MG RESISTOR	3.3Ω,1/16W
	R2009	NRVA63D-432X	CMF RESISTOR	4.3kΩ,1/16W
	R2010	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
	R2011	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
	R2012	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R2013	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
	R2014	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2016	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
	R2017	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R2019	NRSA63J-132X	MG RESISTOR	1.3kΩ,1/16W
	R2020	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2022	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
	R2023	NRSA63J-823X	MG RESISTOR	82kΩ,1/16W
	R2024	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R2025	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W
	R2026	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2028	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2029	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2031	NRSA63J-155X	MG RESISTOR	1.5MΩ,1/16W
	R2032	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2033	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
	R2034	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2035	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2036	NRSA63J-820X	MG RESISTOR	82Ω,1/16W
	R2037	NRSA63J-820X	MG RESISTOR	82Ω,1/16W
	R2038	NRSA63J-820X	MG RESISTOR	82Ω,1/16W
	R2042	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2043	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2052	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R2057	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
	R2058	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
	R2061	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R2062	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
	R2063	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
	R2072	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
	R2073	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
	R2074	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
	R2076	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
	R2077	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
	R2078	NRSA63J-123X	MG RESISTOR	12kΩ,1/16W
	R2079	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
	R2080	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R2081	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2083	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
R2084	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R3501	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3503	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3504	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3506	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3508	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3509	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
R3514	NRSA63J-103X	MG RESISTOR	680Ω,1/16W
R3515	NRSA63J-243X	MG RESISTOR	10kΩ,1/16W
R3519	NRSA63J-681X	MG RESISTOR	24kΩ,1/16W
R3520	NRSA63J-332X	MG RESISTOR	680Ω,1/16W
R3522	NRSA63J-822X	MG RESISTOR	3.3kΩ,1/16W
R3901	NRSA63J-182X	MG RESISTOR	8.2kΩ,1/16W
R3903	NRSA63J-393X	MG RESISTOR	1.8kΩ,1/16W
R3904	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R3905	NRSA63J-100X	MG RESISTOR	39kΩ,1/16W
R3906	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
C1201	NEA71CM-106X	E CAPACITOR	10Ω,1/16W
C1202	NEA71CM-106X	E CAPACITOR	10μF,16V
C1204	NCB31HK-102X	CAPACITOR	10μF,16V
C1205	NCF21CZ-105X	CAPACITOR	0.001μF,50V
C1206	NBE41AM-106X	T CAPACITOR	1μF,16V
C1601	NCB31EK-103X	CAPACITOR	10μF,10V
C1602	NBE41AM-106X	T CAPACITOR	0.01μF,25V
C1603	NBE41AM-106X	T CAPACITOR	10μF,10V
C1604	NCB31HK-681X	CAPACITOR	10μF,10V
C1605	NCB21CK-474X	CAPACITOR	680pF,50V
C1606	NCB31HK-152X	CAPACITOR	0.47μF,16V
C1607	NCB31CK-223X	CAPACITOR	0.0015μF,50V
C1608	NCB31CK-223X	CAPACITOR	0.022μF,16V
C1609	NCB31CK-223X	CAPACITOR	0.022μF,16V
C1610	NCF21EZ-224X	CAPACITOR	0.022μF,16V
C1611	NCF21EZ-224X	CAPACITOR	0.22μF,25V
C1612	NCF21EZ-224X	CAPACITOR	0.22μF,25V
C1613	NCF21EZ-224X	CAPACITOR	0.22μF,25V
C1614	NBE41CM-106X	T CAPACITOR	0.22μF,25V
C1615	NCB31CK-104X	CAPACITOR	10μF,16V
C1616	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1617	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1618	NCB31CK-223X	CAPACITOR	0.1μF,16V
C1619	NCB31CK-223X	CAPACITOR	0.022μF,16V
C1620	NCB31CK-223X	CAPACITOR	0.022μF,16V
C1621	NCB31CK-104X	CAPACITOR	0.022μF,16V
C1622	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1623	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1624	NCB31HK-472X	CAPACITOR	0.1μF,16V
C1625	NCB31CK-104X	CAPACITOR	0.0047μF,50V
C1626	NCB31CK-104X	CAPACITOR	0.1μF,16V
C1627	NCB31CK-473X	CAPACITOR	0.1μF,16V
C1628	NCF21CZ-334X	CAPACITOR	0.047μF,16V
C1633	NCF21CZ-105X	CAPACITOR	0.33μF,16V
C2001	NBE41AM-226X	T CAPACITOR	1μF,16V
C2002	NCB31HK-682X	CAPACITOR	22μF,10V
C2003	NDC31HJ-471X	CAPACITOR	0.0068μF,50V
C2004	NFV41HJ-273X	MPPS CAPACITOR	470pF,50V
C2005	NDC31HJ-331X	CAPACITOR	0.027μF,50V
C2006	NCF21CZ-105X	CAPACITOR	330pF,50V
C2007	NCB31HK-152X	CAPACITOR	1μF,16V
C2008	NCB31HK-152X	CAPACITOR	0.0015μF,50V
			0.0015μF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C2010	NBE21CM-105X	T CAPACITOR	1μF,16V
C2012	NCB31HK-681X	CAPACITOR	680pF,50V
C2013	NCB31EK-103X	CAPACITOR	0.01μF,25V
C2014	NBE21CM-105X	T CAPACITOR	1μF,16V
C2015	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C2016	NCB21EK-683X	CAPACITOR	0.068μF,25V
C2018	NCB21EK-104X	CAPACITOR	0.1μF,25V
C2021	NEA70GM-476X	E CAPACITOR	47μF,4.0V
C2022	NEA70GM-476X	E CAPACITOR	47μF,4.0V
C2023	NBE20JM-475X	T CAPACITOR	4.7μF,6.3V
C2024	NEA70GM-476X	E CAPACITOR	47μF,4.0V
C2025	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C2071	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C2074	NCB11CK-105X	CAPACITOR	1μF,16V
C2075	NCB31EK-223X	CAPACITOR	0.022μF,25V
C2077	NDC31HJ-471X	CAPACITOR	470pF,50V
C2078	NBE21EM-474X	T CAPACITOR	0.47μF,25V
C2079	NBE21EM-474X	T CAPACITOR	0.47μF,25V
C2080	NCB31EK-223X	CAPACITOR	0.022μF,25V
C2083	NDC31HJ-331X	CAPACITOR	330pF,50V
C2084	NDC31HJ-101X	CAPACITOR	100pF,50V
C3501	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C3502	NCF21CZ-105X	CAPACITOR	1μF,16V
C3503	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3504	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3505	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3506	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3507	NCF21CZ-105X	CAPACITOR	1μF,16V
C3508	NCB31EK-153X	CAPACITOR	0.015μF,25V
C3509	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3510	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3511	NDC31HJ-180X	CAPACITOR	18pF,50V
C3512	NDC31HJ-8R0X	CAPACITOR	8pF,50V
C3513	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3514	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3515	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3516	NDC31HJ-150X	CAPACITOR	15pF,50V
C3517	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3518	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3520	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3521	NDC31HJ-100X	CAPACITOR	10pF,50V
C3522	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3523	NCB31HK-332X	CAPACITOR	0.0033μF,50V
C3524	NDC31HJ-180X	CAPACITOR	18pF,50V
C3525	NCB31CK-473X	CAPACITOR	0.047μF,16V
C3901	NDC31HJ-151X	CAPACITOR	150pF,50V
C3903	NCB31EK-103X	CAPACITOR	0.01μF,25V
C3904	NDC31HJ-101X	CAPACITOR	100pF,50V
C3905	NDC31HJ-101X	CAPACITOR	100pF,50V
L2001	NQL164K-101X	COIL	100μH
L2071	NQL092K-1R0X	COIL	1μH
L2072	NQL092K-1R0X	COIL	1μH
L2073	NQL092K-1R0X	COIL	1μH
L3501	NQL144K-101X	COIL	10μH
L3901	NQL144K-101X	COIL	10μH
L3902	NQL184J-560X	COIL	56μH
L3903	NQL184J-560X	COIL	56μH
L3904	NQL184K-1R5X	COIL	1.5μH
SW1001	NSW0009-001X	PUSH SWITCH	
SW1002	NSW0036-001X	PUSH SWITCH	
T2001	NQR0002-001X	BIAS COIL	

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION
CN1	QGF0503F2-10X	FFC/FPC CONNECTOR
CN2	QGF0501F1-06X	FPC CONNECTOR
CN3	QGF0507F2-18X	FPC CONNECTOR
CN4	QGA1201F2-02X	CONNECTOR
CN5	QGF0503F2-11X	CONNECTOR
CN6	QGB0501L1-60X	CONNECTOR
CN7	QGF0507F2-11X	FPC CONNECTOR
CN8	QGA1201F2-05X	CONNECTOR
SD1	LY40493-001A	SHIELD CASE
SD2	LY40546-001A	SHIELD SHEET

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REAR BOARD ASSEMBLY <05>

PW	LY30395-008A	REAR BOARD ASSY

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MONITOR/SPEAKER BOARD ASSEMBLY<07>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YB10212H-01	MONITOR/SPEAKER BOARD ASSY	
IC2401	NJM2073D	IC	
IC2402	TC7S08F	IC(DIGITAL)	
IC2404	BA10358F	IC	
IC7501	BA15532F	IC	
IC7502	CXA1785AR	IC	
IC7503	TC7W14F	IC(DIGITAL)	
IC7504	TC7S04F	IC(DIGITAL)	
IC7505	MN83951-HT	IC	
IC7507	BA4558F	IC	
Q2401	2SD1800	POW TRANSISTOR	
Q2402	DTA144EE	TRANSISTOR	
Q2403	2SC4617/QR/-X	TRANSISTOR	
Q2404	DTC144EE	TRANSISTOR	
Q7501	2SC3647/ST/-X	POW TRANSISTOR	
Q7502	2SC3647/ST/-X	POW TRANSISTOR	
Q7503	DTA144EE	TRANSISTOR	
Q7504	2SC4617/QR/-X	TRANSISTOR	
Q7511	DTC144EE	TRANSISTOR	
Q7512	DTC144EE	TRANSISTOR	
Q7513	DTA144EE	TRANSISTOR	
Q7514	DTC144EE	TRANSISTOR	
Q7515	DTA144EE	TRANSISTOR	
Q7516	2SC4617/QR/-X	TRANSISTOR	
Q7517	2SC4617/QR/-X	TRANSISTOR	
D7502	MA111	DIODE	
D7503	MA365	VARI CAP DIODE	
D7505	RB471E	DIODE	
R2401	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
R2402	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R2403	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R2404	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R2405	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R2406	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2407	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R2408	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R2409	NRSA63J-683X	MG RESISTOR	68kΩ,1/1
R2410	NRSA63J-102X	MG RESISTOR	1kΩ,1/1
R2411	NRSA63J-473X	MG RESISTOR	47kΩ,1/1
R2412	NRSA63J-2R2X	MG RESISTOR	2.2Ω,1/1
R2413	NRSA63J-2R2X	MG RESISTOR	2.2Ω,1/16
R2414	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16
R2418	NRSA63J-103X	MG RESISTOR	10kΩ,1/16
R2419	NRSA63J-102X	MG RESISTOR	1kΩ,1/16
R2420	NRSA63J-184X	MG RESISTOR	180kΩ,1/1
R2421	NRSA63J-334X	MG RESISTOR	330kΩ,1/16
R2423	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16
R2425	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R2426	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R2427	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R2428	NRVA63D-513X	CMF RESISTOR	51kΩ,1/16W
R2429	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R2430	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R2432	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R2433	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R7501	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7502	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7504	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7505	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7506	NRVA63D-822X	CMF RESISTOR	8.2kΩ,1/16W
R7507	NRVA63D-563X	CMF RESISTOR	56kΩ,1/16W
R7508	NRVA63D-393X	CMF RESISTOR	39kΩ,1/16W
R7509	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
R7510	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7511	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R7512	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7513	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7514	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R7515	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
R7516	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7517	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7530	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7531	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7532	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
R7533	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7534	NRSA63J-106X	MG RESISTOR	10MΩ,1/16W
R7536	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R7537	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R7538	NRSA63J-752X	MG RESISTOR	7.5kΩ,1/16W
R7541	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R7542	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R7543	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7544	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7545	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7546	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7547	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7548	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7549	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
R7552	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7553	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
R7554	NRSA63J-822X	MG RESISTOR	8.2kΩ,1/16W
R7555	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7556	NRVA63D-471X	CMF RESISTOR	470Ω,1/16W
R7557	NRVA63D-471X	CMF RESISTOR	470Ω,1/16W
R7558	NRVA63D-471X	CMF RESISTOR	470Ω,1/16W
R7559	NRVA63D-223X	CMF RESISTOR	22kΩ,1/16W
R7560	NRVA63D-473X	CMF RESISTOR	47kΩ,1/16W

# ⚠ REF No.	PART No.	PART NAME. DESCRIPTION	
R7561	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7562	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7563	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7564	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
R7565	NRVA63D-393X	CMF RESISTOR	39kΩ,1/16W
R7566	NRVA63D-363X	CMF RESISTOR	36kΩ,1/16W
R7567	NRVA63D-473X	CMF RESISTOR	47kΩ,1/16W
R7568	NRVA63D-273X	CMF RESISTOR	27kΩ,1/16W
R7569	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7570	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R7571	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7572	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7575	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7576	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R7577	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R7579	NRVA63D-183X	CMF RESISTOR	18kΩ,1/16W
R7580	NRSA63J-564X	MG RESISTOR	560kΩ,1/16W
R7581	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
R7582	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7583	NRSA63J-271X	MG RESISTOR	270Ω,1/16W
R7586	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7589	NRVA63D-563X	CMF RESISTOR	56kΩ,1/16W
R7592	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
R7593	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7596	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7598	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R7599	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R7603	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7604	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7606	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7610	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R7611	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R7612	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
R7613	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
R7614	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7616	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7618	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7619	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
R7620	NRSA63J-682X	MG RESISTOR	6.8kΩ,1/16W
R7621	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
R7622	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7623	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R7624	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7625	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
R7626	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7627	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7628	NRSA63J-474X	MG RESISTOR	470kΩ,1/16W
R7629	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7630	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7631	NRSA63J-683X	MG RESISTOR	68kΩ,1/16W
R7632	NRVA63D-102X	CMF RESISTOR	1kΩ,1/16W
R7633	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7634	NRVA63D-333X	CMF RESISTOR	33kΩ,1/16W
R7635	NRVA63D-683X	CMF RESISTOR	68kΩ,1/16W
R7636	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7637	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7638	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7640	NRVA63D-152X	CMF RESISTOR	1.5kΩ,1/16W
R7643	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
R7644	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7645	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7646	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
R7647	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
R7648	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
R7649	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
R7650	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
VR2401	QVQ0033-B14	V RESISTOR,VOLUME(SPK)	
VR7501	NVP0016-223X	TRIM RESISTOR,V COM	
VR7502	NVP0016-223X	TRIM RESISTOR,COLOR LEVEL	
VR7503	NVP0016-223X	TRIM RESISTOR,WHITE BALANCE(R	
VR7504	NVP0016-223X	TRIM RESISTOR,WHITE BALANCE(B	
VR7506	NVP0016-103X	TRIM RESISTOR,BRIGHT	
VR7507	QVQ0043-B24	V RESISTOR,BRIGHT	
VR7508	NVP0016-223X	TRIM RESISTOR,HD(VCO)	
VR7510	NVP0016-223X	TRIM RESISTOR,CONTRAST	
C2404	NBE41AM-106X	T CAPACITOR	10μF,10V
C2405	NBE21EM-474X	T CAPACITOR	0.47μF,25V
C2406	NCB31EK-103X	CAPACITOR	0.01μF,25V
C2407	NBE41AM-106X	T CAPACITOR	10μF,10V
C2408	NCB31EK-103X	CAPACITOR	0.01μF,25V
C2409	NBE40JM-226X	T CAPACITOR	22μF,6.3V
C2410	NCB31CK-104X	CAPACITOR	0.1μF,16V
C2411	NCB21CK-224X	CAPACITOR	0.22μF,16V
C2415	NCB11CK-105X	CAPACITOR	1μF,16V
C2419	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7501	NCZ1016-180X	CAPACITOR	18pF,2kV
C7502	NCZ1016-220X	CAPACITOR	22pF,2kV
C7503	NFV41HJ-333X	MPPS CAPACITOR	0.033μF,50V
C7504	NBE71CM-476X	T CAPACITOR	47μF,16V
C7505	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7506	NBE41EM-475X	T CAPACITOR	4.7μF,25V
C7507	NDC31HJ-330X	CAPACITOR	33pF,50V
C7508	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7509	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7510	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7511	NBE41EM-475X	T CAPACITOR	4.7μF,25V
C7512	NBE21CM-225X	T CAPACITOR	2.2μF,16V
C7517	NBE50JM-107X	T CAPACITOR	100μF,6.3V
C7518	NCB11CK-105X	CAPACITOR	1μF,16V
C7519	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7520	NCB31HK-681X	CAPACITOR	680pF,50V
C7521	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7522	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7523	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7524	NCB31CK-473X	CAPACITOR	0.047μF,16V
C7525	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7526	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7527	NDC31HJ-820X	CAPACITOR	82pF,50V
C7528	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7530	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7531	NCB11EK-474X	CAPACITOR	0.47μF,25V
C7532	NCB11CK-105X	CAPACITOR	1μF,16V
C7533	NCB11CK-105X	CAPACITOR	1μF,16V
C7534	NCB11CK-105X	CAPACITOR	1μF,16V
C7535	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7536	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7537	NBE20JM-106X	T CAPACITOR	10μF,6.3V
C7538	NBE21DM-225X	T CAPACITOR	2.2μF,20V
C7539	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7540	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7541	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7542	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7543	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7544	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7545	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7546	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7547	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7548	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7549	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7550	NCB31EK-682X	CAPACITOR	0.0068μF,25V
C7551	NBE21AM-225X	T CAPACITOR	2.2μF,10V
C7552	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7553	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7554	NDC31HJ-330X	CAPACITOR	33pF,50V
C7555	NDC31HJ-330X	CAPACITOR	33pF,50V
C7556	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7561	NBE21AM-335X	T CAPACITOR	3.3μF,10V
C7562	NDC31HJ-100X	CAPACITOR	10pF,50V
C7563	NDC31HJ-100X	CAPACITOR	10pF,50V
C7564	NDC31HJ-100X	CAPACITOR	10pF,50V
C7565	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7566	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7567	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7568	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7570	NCB11CK-105X	CAPACITOR	1μF,16V
C7571	NCB31HK-561X	CAPACITOR	560pF,50V
C7572	NCB31HK-102X	CAPACITOR	0.001μF,50V
C7573	NDU31HJ-121X	CAPACITOR	120pF,50V
C7574	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7575	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7576	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7577	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7578	NBE21DM-225X	T CAPACITOR	2.2μF,20V
C7582	NBE21AM-685X	T CAPACITOR	6.8μF,10V
C7583	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7584	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7588	NCB11CK-105X	CAPACITOR	1μF,16V
C7589	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7591	NDU31HJ-360X	CAPACITOR	36pF,50V
C7592	NCB31HK-562X	CAPACITOR	0.0056μF,50V
C7593	NDC31HJ-101X	CAPACITOR	100pF,50V
C7594	NDC31HJ-101X	CAPACITOR	100pF,50V
C7595	NDC31HJ-101X	CAPACITOR	100pF,50V
C7597	NDC31HJ-471X	CAPACITOR	470pF,50V
C7598	NCB31EK-103X	CAPACITOR	0.01μF,25V
C7599	NDC31HJ-151X	CAPACITOR	150pF,50V
C7600	NCB11CK-105X	CAPACITOR	1μF,16V
C7601	NCB31CK-104X	CAPACITOR	0.1μF,16V
C7602	NCB11CK-105X	CAPACITOR	1μF,16V
L7501	NQLZ007-680X	COIL	68μH
L7502	NQLZ007-100X	COIL	10μH
L7503	NQL144K-220X	COIL	22μH
L7504	NQL044K-101X	COIL	100μH
L7505	NQL144K-220X	COIL	22μH
L7506	NQL144K-220X	COIL	22μH
L7507	NQL144K-220X	COIL	22μH
L7508	NQL024J-1R8X	COIL	1.8μH
L7510	NQL184J-270X	COIL	27μH
X7501	NAX0198-001X	CRYSTAL RESONATOR	
SW7501	NSW0007-001X	PUSH SWITCH	
TC7501	NAT7003-100W	TRIM CAPACITOR	
T7501	NQS0017-001	SW TRANSF	
ET1	LY30414-001A	PLATE(EARTH)	
CN71	QGF0506F1-35X	FPC CONNECTOR	
CN72	QGA5002F1-02X	CONNECTOR	
CN73	QGF0502F1-24X	FPC CONNECTOR	
CN74	QGA1201F2-02X	CONNECTOR	
CN75	QGF0502F1-06X	FPC CONNECTOR	
⚠ F7501	PEMC1155-R40Z	FUSE	T0.4A

****

E.VF BOARD ASSEMBLY(TYPE T) <10>

PW	YB20776F	E.VF BOARD ASSY	
IC7001	BA7149F-XE	IC	
Q7001	2SD968A(RS)	PH TRANSISTOR	
Q7002	2SA1748(QR)	PH TRANSISTOR	
Q7003	2SA1748(QR)	PH TRANSISTOR	
D7001	MA142WA	DIODE	
R7002	NRSA02J-3R9X	MG RESISTOR	3.9Ω,1/10W
R7003	NRVA02D-183X	CMF RESISTOR	18kΩ,1/10W
R7005	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7006	NRSA02J-113X	MG RESISTOR	11kΩ,1/10W
R7007	NRSA02J-330X	MG RESISTOR	33Ω,1/10W
R7008	NRSA02J-394X	MG RESISTOR	390kΩ,1/10W
R7009	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R7010	NRVA02D-104X	CMF RESISTOR	100kΩ,1/10W
R7011	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7012	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R7013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7015	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7016	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R7017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7018	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7019	NRSA02J-120X	MG RESISTOR	12Ω,1/10W
R7020	NRS181J-685X	MG RESISTOR	6.8MΩ,1/8W
R7021	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
R7022	NRSA02J-475X	MG RESISTOR	4.7MΩ,1/10W
R7023	NRSA02J-564X	MG RESISTOR	560kΩ,1/10W
R7024	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
R7025	NRSA02J-275X	MG RESISTOR	2.7MΩ,1/10W
R7026	NRSA02J-275X	MG RESISTOR	2.7MΩ,1/10W
R7029	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7030	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
VR7001	NVP0001-221X	TRIM RESISTOR,V SIZE	
VR7002	NVP0001-225X	TRIM RESISTOR,BRIGHT	
VR7003	PERE0595-565	V RESISTOR,FOCUS	
C7001	QFV21HJ-104AZ	F CAPACITOR	0.1μF,50V
C7002	QEDR1AM-227	E CAPACITOR	220μF,10V
C7003	QEDR1AM-227	E CAPACITOR	220μF,10V
C7004	QEDP1AM-227	E CAPACITOR	220μF,10V
C7005	NCF21CZ-105X	CAPACITOR	1μF,16V
C7006	NCB21EK-153X	CAPACITOR	0.015μF,25V
C7007	NCB11CK-105X	CAPACITOR	1μF,16V
C7008	NCF21CZ-105X	CAPACITOR	1μF,16V
C7009	PECA1131-A107	E CAPACITOR	100μF,10V
C7010	PECA1135-Y	CAPACITOR	5600pF,100V
C7011	NDC21HJ-180X	CAPACITOR	18pF,50V
C7012	QEKC1HM-105	E CAPACITOR	1μF,50V
C7013	NCF21HZ-104X	CAPACITOR	0.1μF,50V

⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C7014	NCF21HZ-104X	CAPACITOR	0.1µF,50V
C7015	QCZ0136-151Z	CAPACITOR	150pF,1kV
C7016	PECA1133	CAPACITOR	330pF,500V
L7001	PELN1175	COIL	
L7002	PU49993-101	COIL	100µH
L7003	PELN1101-680JY	COIL	68µH
T7001	QQH0011-001	FB TRANSF	
CN7001	PEMC0856-4	CONNECTOR	
CN7002	PEMC1004-006	CONNECTOR	
CN7003	QNZ0010-001	CRT SOCKET	

****

OPERATION(CAMERA)BOARD ASSEMBLY <19>

PW	LY30412-005B	OPERATION(CAMERA)BOARD ASSY
OT1	PTY30412-031	KNOB,MULTI-FUNCTION CONTROL
OT2	PTY30412-032	KNOB,SELECT DIAL

****

OPERATION(DECK)BOARD ASSEMBLY <20>

PW	LY10048-001B	OPERATION(DECK)BOARD ASSY

****

IR BOARD ASSEMBLY <22>

PW	QAL0088-001	IR BOARD ASSY

****

E.VF BOARD ASSEMBLY (TYPE M) <50>

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PW	YQ32236-601	E.VF BOARD ASSY	
IC1	BA7149F	IC	
Q1	2SA1037K	TRANSISTOR,TR1	
	or 2SA1179	TRANSISTOR,TR1	
	or 2SA1235	TRANSISTOR,TR1	
Q2	2SC4132	TRANSISTOR,TR2	
Q3	2SC4618	TRANSISTOR,TR3	
	or 2SC4655	TRANSISTOR,TR3	
D1	RLS245	DIODE	
R1	YQ31803-501	RESISTOR	9.1kΩ,1/10W
R2	QRSA08G-333YN	RESISTOR	33kΩ,1/10W
R3	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R4	QRSA08J-390YN	RESISTOR	39Ω,1/10W
R5	YU30595-111	RESISTOR	390Ω,1/10W
R6	YU30595-113	RESISTOR	91kΩ,1/10W
R7	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R8	YQ31803-502	RESISTOR	2.2kΩ,1/10W
R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
VR1	YQ31803-504	V RESISTOR,V SIZE	
VR2	YQ31803-505	V RESISTOR,H HOLD	
VR4	YQ31803-506	V RESISTOR,BRIGHT	
R10	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R11	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R12	QRSA08J-113YN	RESISTOR	11kΩ,1/10W
R13	YQ31803-503	RESISTOR	3.9kΩ,1/10W
R14	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R15	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R16	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R17	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R18	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R19	QRSA08F-103YN	RESISTOR	10kΩ,1/10W
R20	QRSA08F-152YN	RESISTOR	1.5kΩ,1/10W
R21	QRSA08J-275YN	RESISTOR	2.7MΩ,1/10W
R22	QRSA08J-275YN	RESISTOR	2.7MΩ,1/10W
R23	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R24	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R25	QRSA08J-2R7YN	RESISTOR	2.7Ω,1/10W
R26	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R27	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
C1	YQ31803-507	CAPACITOR	0.22µF,16V
C2	YQ31304-503	CAPACITOR	1µF,16V
C3	YQ31304-504	CAPACITOR	1500pF,50V
C4	YQ31304-503	CAPACITOR	1µF,16V
C5	QEDP1AM-227	E CAPACITOR	220µF,10V
C6	QEDP1AM-227	E CAPACITOR	220µF,10V
C7	QEDP1AM-227	E CAPACITOR	220µF,10V
C8	YQ31304-503	CAPACITOR	1µF,16V
C9	YQ31392-501	CAPACITOR	100pF,16V
C10	YU30531-163	CAPACITOR	0.047µF
C11	QER61HM-100	E CAPACITOR	10pF,50V
C12	YQ31803-508	F CAPACITOR	6200pF,100V
C13	YQ31304-506	E CAPACITOR	100µF,10V
C14	YQ31304-507	CAPACITOR	1500pF,630V
L1	YQ30723-115	COIL	100µH
TH1	YU30236-110	THERMISTOR	
⚠ FBT1	YQ31803-550	FLY BACK TRANS	
HLC1	YQ31803-560	H.COIL	
WR1	YQ32236-680	FPC,CN1-MAIN1 CN12	
CN1	YQ31803-570	CONNECTOR	
CN2	YQ31803-571	CONNECTOR	
CN3	YQ31803-572	CONNECTOR	

SECTION 6
TECHNICAL INFORMATION

6.1 EMERGENCY DISPLAY

Whenever some abnormal signal is supplied to mechacon CPU, an error number (E 04, for example) displayed in the electronic view finder and LCD screen.

- In an emergency mode, all operations except turning on/off the POWER switch are ineffectual.

E. VF/LCD	Symptom	Mode when observed	Resulting mode
E07	Short circuit of capstan MDA	Power ON	Power OFF
E06	CAPSTAN FG input absent	EDIT	Power OFF
E04	DRUM FF input absent	DRUM rotation	Power OFF
E03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	UNLOADING →Power OFF
E02	Mode control motor rotates for more than 10 sec without shift to next mode.	UNLOADING	Power OFF
E01	Mode control motor rotates for more than 10 sec without shift to next mode.	LOADING	Power OFF
E00	Overtime the programming transaction	REC, PLAY	Power OFF

6.2 DEMONSTRATION MODE

This model has the DEMONSTRATION mode.

1) How to set the DEMONSTRATION mode.
The camera can be entered into the DEMONSTRATION mode by setting on the MOVIE MENU screen appearing on the LCD monitor or in the viewfinder.

When entering the camera into the DEMONSTRATION mode, pay heed to the following matters.

1. The SELECT DIAL is set at except the "LOCK" position.
2. No cassette is set in the camcorder or a cassette is set in the camcorder but it is protected from recording.

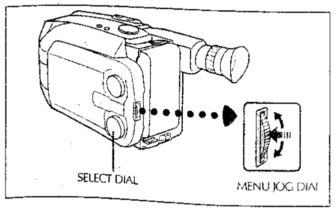
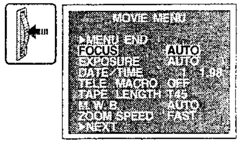


Fig. 6-1

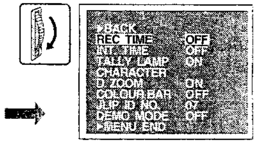
1. Set the POWER switch to turn on the "CAMERA".
   Assume that the SELECT DIAL is set at "FG".
   Press the MENU JOG DIAL once.
   The first page of the MOVIE MENU appears on the LCD monitor (or in the viewfinder).



MOVIE MENU
▶MENU END
FOCUS AUTO
EXPOSURE AUTO
DATE/TIME 1 1.98
TELE MACRO OFF
TAPE LENGTH T45
M.W.B AUTO
ZOOM SPEED FAST
▶NEXT

Menu Screen 1

2. Turn the MENU JOG DIAL in the direction of the arrow to set the cursor at "NEXT".
   The second page of the MOVIE MENU appears on the LCD monitor (or in the viewfinder).



▶BACK
REC TIME OFF
INT. TIME OFF
TALLY LAMP ON
CHARACTER
D.ZOOM ON
COLOUR BAR OFF
JLIP ID NO. 07
DEMO MODE OFF
▶MENU END

Menu Screen 2

See to next page

<Flow chart>

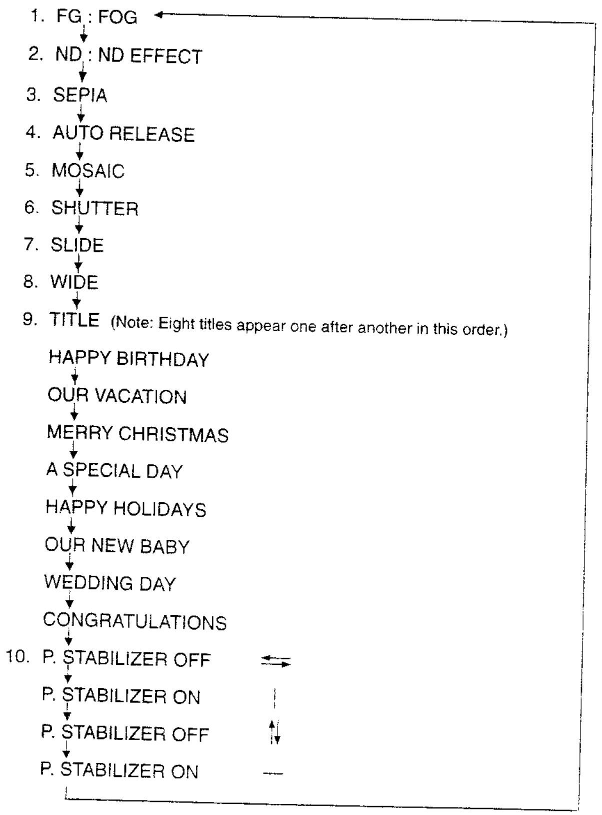
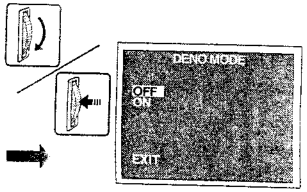

1. FG : FOG
2. ND : ND EFFECT
3. SEPIA
4. AUTO RELEASE
5. MOSAIC
6. SHUTTER
7. SLIDE
8. WIDE
9. TITLE (Note: Eight titles appear one after another in this order.)
HAPPY BIRTHDAY
OUR VACATION
MERRY CHRISTMAS
A SPECIAL DAY
HAPPY HOLIDAYS
OUR NEW BABY
WEDDING DAY
CONGRATULATIONS
10. P. STABILIZER OFF
P. STABILIZER ON
P. STABILIZER OFF
P. STABILIZER ON

Fig. 6-2

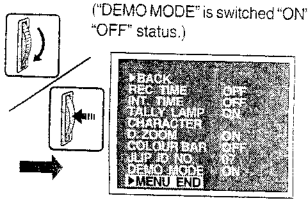
2) How to cancel the DEMONSTRATION mode.
To cancel the DEMONSTRATION mode, turn the POWER switch off ("POWER OFF").

3. Turn the MENU JOG DIAL in the direction of the arrow to set the cursor at "DEMO MODE". Then, press the MENU JOG DIAL once. The third page of the DEMO MODE appears on the LCD monitor (or in the viewfinder).


DEMO MODE
OFF
ON
EXIT

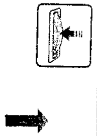
Menu Screen 3

4. Turn the MENU JOG DIAL in the direction of the arrow to set the cursor at "ON". Then, press the MENU JOG DIAL once. The fourth page of the MOVIE MENU appears on the LCD monitor (or in the viewfinder). ("DEMO MODE" is switched "ON" from "OFF" status.)


▶BACK
REC TIME OFF
INT. TIME OFF
TALLY LAMP ON
CHARACTER
D.ZOOM ON
COLOUR BAR OFF
JLIP ID NO. 07
DEMO MODE ON
▶MENU END

Menu Screen 4

5. Press the MENU JOG DIAL once. The camcorder automatically enters the DEMONSTRATION mode and it repeats demonstration operation. While the camcorder is performing demonstration, all operations except turning on/off the POWER switch are ineffectual.



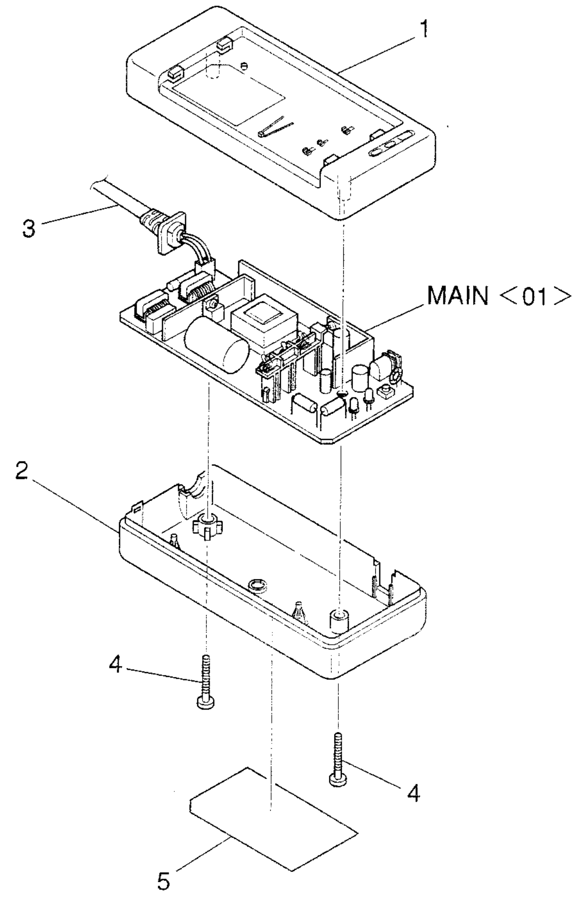
Refer to Fig. 6-2.
While the DEMONSTRATION mode is activated, a word of "DEMONSTRATION" is appearing on the screen scrolling from right to left.

SECTION 7
AC POWER ADAPTER (AA-V15EG)

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

7.1 CABINET ASSEMBLY <M2>


1
3
MAIN <01>
2
4
4
5

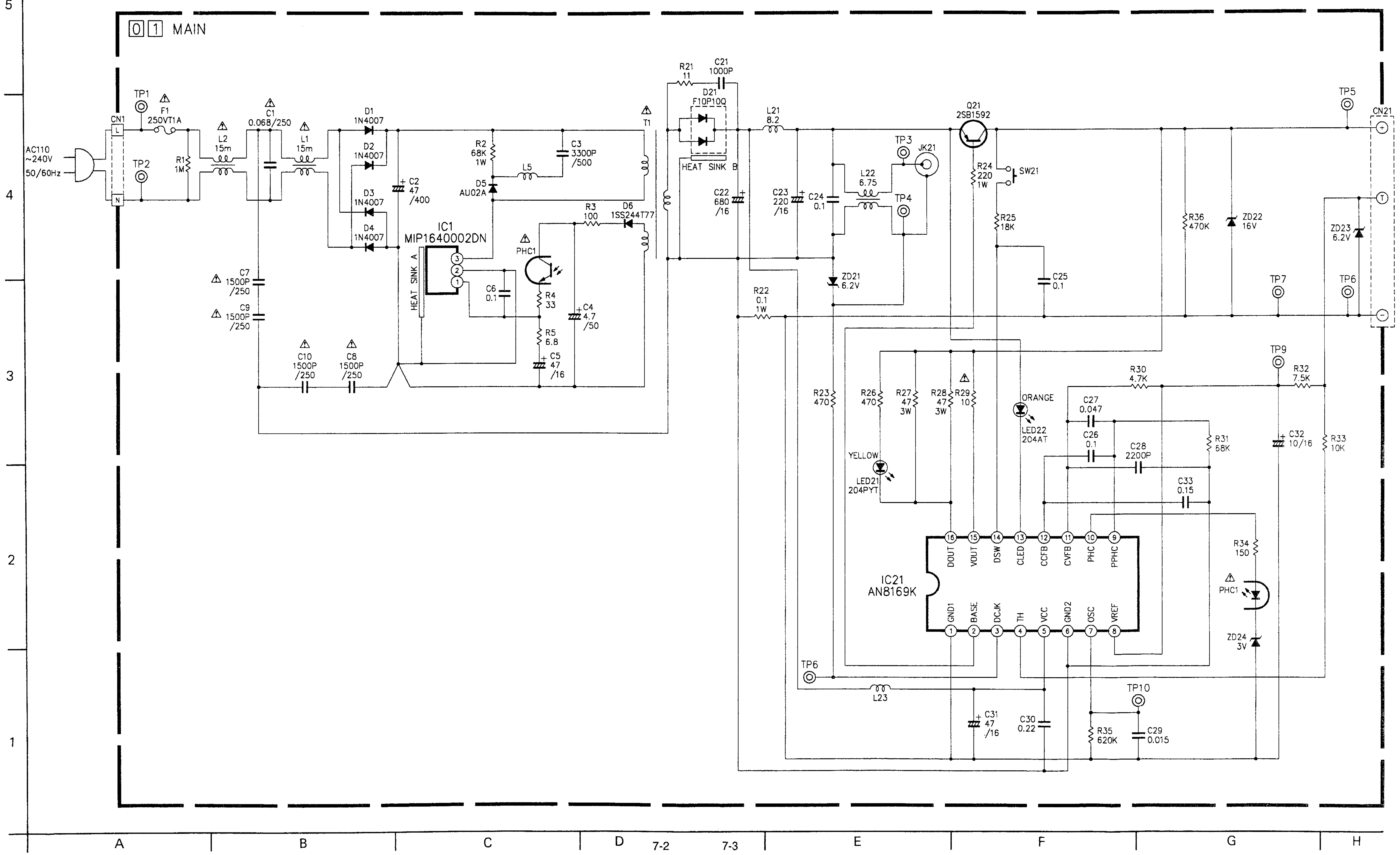
# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	1	PTY10067-003	UPPER CASE ASSY
	2	PTY10067-013	LOWER CASE
⚠	3	YQ10531-006	POWER CORD
	4	YQ10531-011	SCREW , X2
⚠	5	–	RATING LABEL

* *

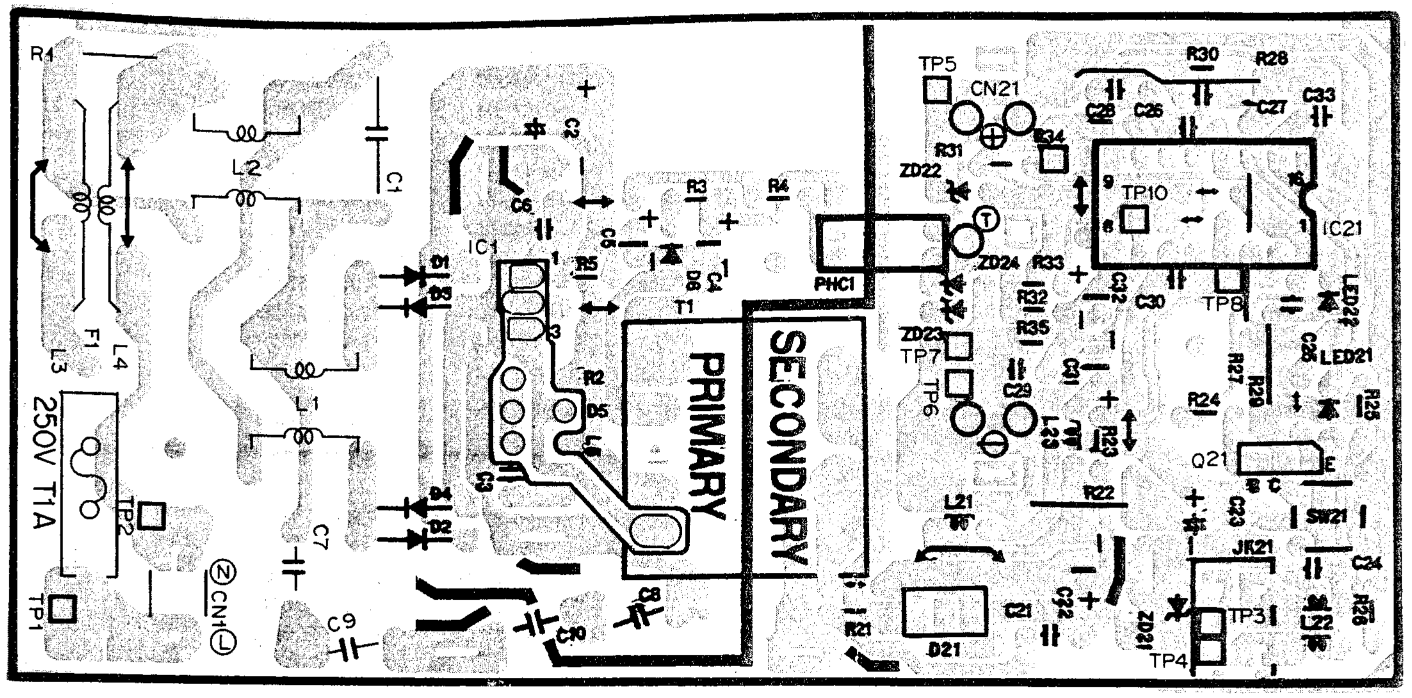
CABINET ASSEMBLY <M2>

NOTE: *When ordering parts, be sure to order according to the Part Number indicated in the Parts List.*

Safety precaitons
The components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended partds.


01 MAIN
5
4
3
2
1
A
B
C
D
E
F
G
H
AC110 ~240V 50/60Hz
CN1
L
N
TP1
TP2
F1 250VT1A
R1 1M
L2 15m
C1 0.068/250
L1 15m
D1 1N4007
D2 1N4007
D3 1N4007
D4 1N4007
C2 47 /400
R2 68K 1W
D5 AU02A
L5
C3 3300P /500
T1
IC1 MIP1640002DN
HEAT SINK A
PHC1
C6 0.1
R4 33
R5 6.8
C5 47 /16
C4 4.7 /50
R3 100
D6 1SS244T77
C7 1500P /250
C9 1500P /250
C10 1500P /250
C8 1500P /250
R21 11
C21 1000P
D21 F10P10Q
HEAT SINK B
C22 680 /16
L21 8.2
C23 220 /16
C24 0.1
L22 6.75
TP3
JK21
TP4
ZD21 6.2V
R22 0.1 1W
Q21 2SB1592
R24 220 1W
SW21
R25 18K
C25 0.1
R36 470K
ZD22 16V
TP5
CN21
ZD23 6.2V
TP7
TP6
R23 470
R26 470
R27 47 3W
R28 47 3W
R29 10
ORANGE
LED22 204AT
YELLOW
LED21 204PYT
R30 4.7K
TP9
R32 7.5K
C27 0.047
C26 0.1
C28 2200P
R31 68K
C32 10/16
R33 10K
C33 0.15
IC21 AN8169K
DOUT
VOUT
DSW
CLED
CCFB
CVFB
PHC
PPHC
GND1
BASE
DCJK
TH
VCC
GND2
OSC
VREF
R34 150
PHC1
ZD24 3V
TP6
L23
TP10
C31 47 /16
C30 0.22
R35 620K
C29 0.015

7.3 CIRCUIT BOARD


R1
L2
C1
C2
C5
C6
IC1
R3
R4
R5
D6
C4
T1
D1
D3
D2
D4
R2
D5
L1
C3
C7
C8
C9
C10
PRIMARY
SECONDARY
PHC1
F1
L4
L3
250V T1A
TP2
TP1
CN1
TP5
CN21
R30
R28
C28
C26
C27
C33
R31
R34
ZD22
TP10
IC21
ZD24
R33
R32
C32
C30
TP8
LED22
R35
ZD23
TP7
TP6
C29
C31
R27
R29
LED21
R24
L23
R23
R25
Q21
E
B
C
L21
R22
C23
SW21
JK21
C24
D21
C21
C22
ZD21
TP3
L22
R26
R21
TP4

7.4 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <01>

# ⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
⚠	PW1	PTY10067-502	MAIN BOARD ASSY	
	IC1	MIP1640002DN	IC	
	IC21	AN8169K	IC	
	Q21	2SB1592	TRANSISTOR	
	or	2SA1615	TRANSISTOR	
	D1	1N4007	DIODE	
	D2	1N4007	DIODE	
	D3	1N4007	DIODE	
	D4	1N4007	DIODE	
	D5	AU02A	DIODE	
	D6	1SS244T77	DIODE	
	D21	MA7D61	DIODE	
	ZD21	MA4062	ZENER DIODE	
	ZD22	MA4160	ZENER DIODE	
	ZD23	MA4062	ZENER DIODE	
	ZD24	MA4030	ZENER DIODE	
	LED21	YQ10531-543	LED	
	LED22	YQ10531-541	LED	
	R1	QRN141J-105	RESISTOR	1MΩ,1/4W
	R2	QRL01DJ-683X	CMF RESISTOR	68kΩ,1W
	R3	QRZ0125-101	RESISTOR	100Ω,1/4W
	R4	QRZ0125-330	RESISTOR	33Ω, 1/4W
	R5	QRZ0125-6R8	RESISTOR	6.8Ω,1/4W
	R21	PTY20080-512	RESISTOR	11Ω,1/4W
	R22	QRZ0192-R10X	MF RESISTOR	0.1Ω,1W
	R23	QRZ0125-471	RESISTOR	470Ω,1/4W
	R24	QRL01DJ-221X	CMF RESISTOR	220Ω,1W
	R25	QRZ0125-183	RESISTOR	18kΩ,1/4W
	R26	QRZ0125-471	RESISTOR	470Ω,1/4W
	R27	QRL037J-470	CMF RESISTOR	47Ω,3W
	R28	QRL037J-470	CMF RESISTOR	47Ω,3W
⚠	R29	QRZ9005-100	F RESISTOR	10kΩ,1/4W
	R30	QRZ0125-472	RESISTOR	4.7kΩ,1/4W
	R31	QRZ0125-683	RESISTOR	68kΩ,1/4W
	R32	QRA141F-7501	MF RESISTOR	7.5kΩ,1/4W
	R33	QRZ0125-103	RESISTOR	10Ωk,1/4W
	R34	QRZ0125-151	RESISTOR	150Ω,1/4W
	R35	QRA141F-6203	MF RESISTOR	620kΩ,1/4W
	R36	QRZ0125-474	RESISTOR	470kΩ,1/4W
⚠	C1	YQ10626-401	F CAPACITOR	0.068μF,250V
	C2	YQ10626-402	E CAPACITOR	47μF,400V
	C3	YQ10626-403	CAPACITOR	3300pF,500V
	C4	QWHA1HM-475	E CAPACITOR	4.7μF,50V
	C5	YQ10626-404	E CAPACITOR	47μF,16V
	C6	PTY10067-511	CAPACITOR	0.1μF,25V
⚠	C7	PTY10067-513	CAPACITOR	1500pF,250V
⚠	C8	PTY10067-513	CAPACITOR	1500pF,250V
⚠	C9	PTY10067-513	CAPACITOR	1500pF,250V
⚠	C10	PTY10067-513	CAPACITOR	1500pF,250V
	C21	YQ10626-408	CAPACITOR	1000pF,500V
	C22	PTY20080-522	E CAPACITOR	680μF,16V
	C23	QETA1CM-227	E CAPACITOR	220μF,16V
	C24	PTY10067-511	CAPACITOR	0.1μF,25V
	C25	PTY10067-511	CAPACITOR	0.1μF,25V
	C26	QFVD1HJ-104	F CAPACITOR	0.1μF,50V
	C27	QFVD1HJ-473	F CAPACITOR	0.047μF,50V
	C28	QFLA1HJ-222	F CAPACITOR	0.0022μF,50V
	C29	QFLA1HJ-153	F CAPACITOR	0.015μF,50V
	C30	QFVD1HJ-224	F CAPACITOR	0.22μF,50V
	C31	YQ10626-404	E CAPACITOR	47μF,16V
	C32	QETA1CM-106	E CAPACITOR	10μF,16V
	C33	QFVD1HJ-154	E CAPACITOR	0.15μF,50V
⚠	L1	PTY10067-522	LINE FILTER	
⚠	L2	PTY10067-522	LINE FILTER	
	L5	PTY10067-521	FERRITE BEADS	
	L21	PTY20080-533	CHOKE COIL	
	L22	PTY20080-534	TROIDAL COIL	
	L23	PTY10067-521	FERRITE BEADS	
⚠	PHC1	PC123YS	PHOTO COUPLER	
⚠	or	PS25611VM	PHOTO COUPLER	
⚠	or	PS25611VH	PHOTO COUPLER	
	JK21	YQ10531-570	DC JACK	
⚠	T1	PTY20080-541	TRANS	
⚠	F1	PTY10067-102	FUSE	
	SW21	PTY10067-531	SWITCH	
	HS1	PTY10067-541	HEAT SINK A	
	HS2	PTY10067-542	HEAT SINK B	
	OT1	PTY10067-551	SCREW,X2	
	TB1	PTY10067-561	TERMINAL 1,X2	
	TB2	PTY10067-562	TERMINAL 2,X3	
	HD1	PTY10067-571	TERMINAL HOLDER	
	CN1	YQ10531-560	CONNECTOR	